AMERICAN

JANUARY • 1955

Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

This Issue ...

- THE [illegible] SWITCHES TO TV
- [illegible] PROCESS [illegible]
- TRI-X IN FEATURE FILM PRODUCTION

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Joe Dougherty, Du Pont Technical Representative (left) discusses "Superior" 2 and the Mitchell Camera with Burgi Contner (right), operating cameraman Eddie Hyland and assistant cameraman George Wellstead.

Getting ready to shoot on the "Janet Dean—Registered Nurse" set. That's Burgi Contner taking a meter reading as Ella Raines, the show's star, prepares for the shooting.

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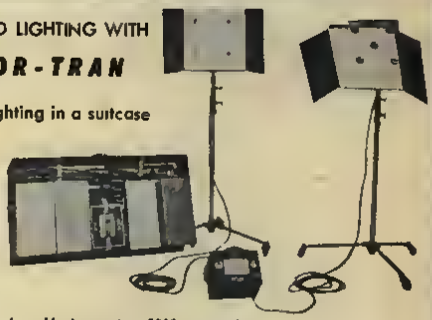

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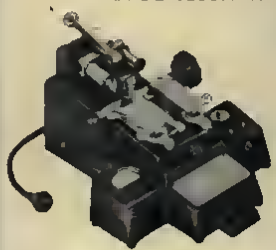

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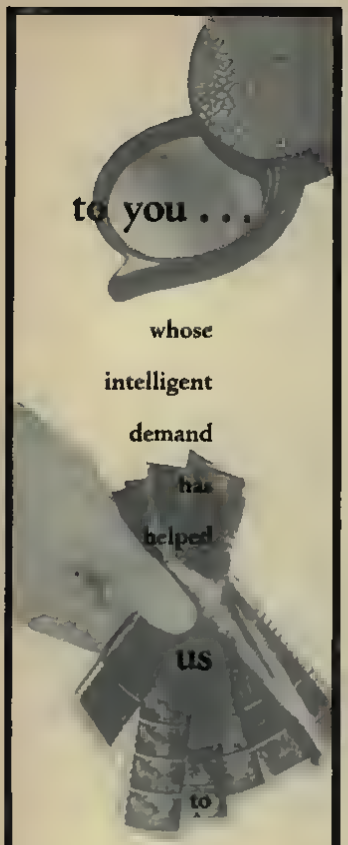

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PUBLICATION OF THE AMERICAN SOCIETY OF CINEMATOGRAPHERS

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ON THE COVER

GREENWICH VILLAGE IN HOLLYWOOD—A Columbia Pictures' crew sets a Greenwich Village scene on a sound stage, with Janet Leigh and Bob Fosse as performers, for Columbia's musical version of "My Sister Eileen," the CinemaScope and Technicolor photography for which was directed by Charles "Buddy" Lawton, Jr., A.S.C. Here may be seen some of the interesting technical equipment used in filming a scene of this kind indoors on the sound stage—*Photo by Gereghty*

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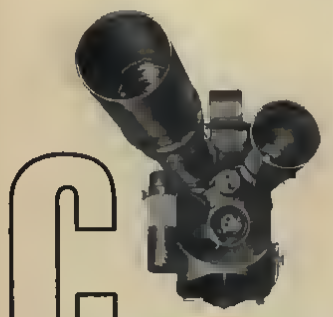

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Hollywood Bulletin Board

WARNER BROTHERS' "Battle Cry" company is seen here on location on Vieques Island, Puerto Rico, where CinemaScope cameras under the direction of cinematographer Sid Hickox, A.S.C., recorded mighty spectacle of the Guadalcanal invasion

Joseph Brun, A.S.C., reports from overseas that he is presently in Germany directing the photography of "Special Delivery," a Rathvon-Schulberg-DeGoldschmidt production starring Joseph Cotten and Eva Bartok. Picture is being shot in two versions—English and German.

★

Thomas Tutwiler, A.S.C., returned from Venezuela last month where he directed the photography of a feature-length film in Eastman Color for and with Coronel Marcos Perez Jiminez, Presidente of Venezuela. Production is a progress report on the accomplishments of the Jiminez regime during past two years.

★

John Dored, A.S.C., one of the Society's pioneer members, died September 22 in Norway, where he had resided since his retirement from active photography a year ago. One of the most colorful of newsreel cameramen, Dored had earned a reputation for always coming through whenever given the "impossible" assignment.

★

Correction—Al Lane, who appeared in the photo on page 626 of our December issue and was erroneously identified as an "MGM set electrician," is actually an operative cameraman and has been working recently as operator with director of photography Al Gilks, A.S.C., who shoots the "Halls of Ivy" TV film series.

★

Ted McCord, A.S.C., who recently signed a new term contract with Warner Brothers studio in Hollywood, drew "East of Eden" as his first assignment. Picture marked his first venture in color and CinemaScope. He is presently shooting second unit on "The McConnell Story" for Warner Brothers. John Seitz, A.S.C., is directing the photography on first unit.

★

George Folsey, A.S.C., holds the distinction of having three of his top M-G-M pictures, photographed last year, exhibited in the Music Hall, New York City. They include "Executive Suite," "Seven Brides for Seven Brothers," and "Deep In My Heart." He recently completed "Hit The Deck," and started shooting "The Cobweb," another M-G-M production, in mid-December.

★

Sol Halprin, A.S.C., and **Ted McCord, A.S.C.,** have been named on this year's Scientific and Technical Awards Committee of the Academy of Motion Picture Arts and Sciences.

WILLIAM SKALL, A.S.C., who directed the photography of Warner Brothers' "The Silver Chalice," gives Jack Palance's makeup a final check before the CinemaScope camera starts to roll on this unique color production produced by Victor Saville

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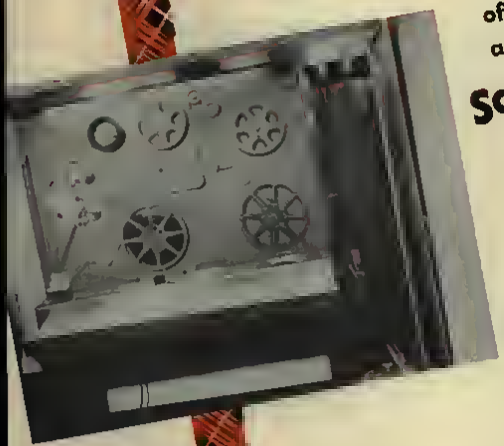

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Features include 100 ft film capacity, self contained pre-amplifier. Bodine sync motor, illuminated VU meter, "ears" for rack mounting, push-pull low distortion bias supply, power receptacle for camera—and a single unit case Total weight is 27 lbs. Retail price is $695.00

Film Editing Machine

Resultant Engineering, Inc, 7124 Santa Monica Blvd., Hollywood 46. Calif, announces its line of new editing equipment which includes a Standard model for 35mm picture film with 17½mm or 35mm magnetic or optical track, and the Combination model that takes both 16mm and 35mm picture film with 17½mm or 35mm sound tracks

Features include 9" Jensen speaker and hi-fidelity amplifier, rugged Geneva theatre-projector type intermittent, electrical hand brake. large picture for easy viewing, optical unit which springs away from film exposing entire frame for easy marking. tone control light well, and extra large film bag. Brochure is available.

Magna-Stripe at Byron's

Byron, Inc., 1226 Wisconsin Ave., N.W., Washington 7, D C, announces the addition of a Reeves Magna-Stripe application unit to the company's laboratory. Machine is 16mm counterpart of system used to apply magnetic striping to CinemaScope films. Company now offers one day striping service to 16mm film producers Price of Magna-Strip in any width is 1¾¢ per ft

Camera Brace

S.O.S. Cinema Supply Corp., 602 West 52nd St., New York 19, N Y., offers a new type camera support for hand-held motion picture cameras Tradenamed the Body-Brace Camera Pod, it provides extra camera steadiness and greater comfort for the cameraman. Made of lightweight aluminum, it weighs but 3½ lbs., is priced at $24.95 For descriptive literature, write the company direct, mentioning *American Cinematographer*.

Continuous Contact Printer

Houston-Fearless Division, Color Corp. of America, 11809 West Olympic Blvd., Los Angeles 64, Calif., announces a new continuous contact

(Continued on Page 12)

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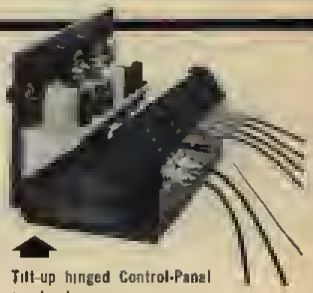

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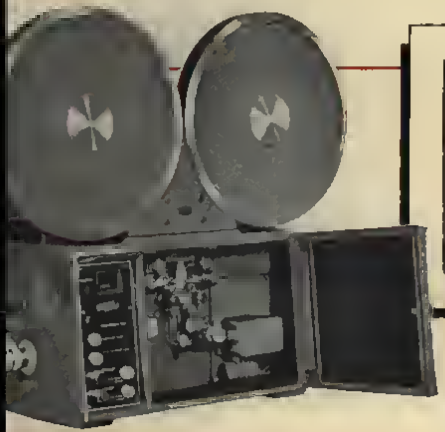

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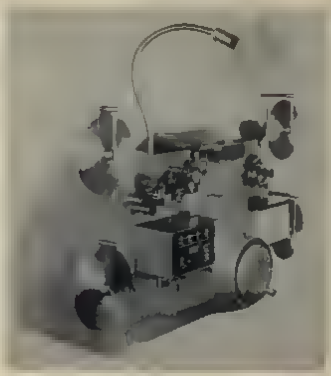
WHAT'S NEW

(Continued from Page 10)



printer for 16mm black-and-white or color motion picture film.

Equipment provides for 22 printer light settings; proper light value for each scene is easily and accurately controlled by light selector dial which is pre set for each scene. Index cards showing proper light value for each scene are held in handy receptacle on panel; a pointer shows which scene is being printed.

Optical system is constant and accurate, projecting a slit of intense even light. Maximum sharpness is provided by focusing adjustment. Filters for correcting emulsion differences can be interposed in the optical beam. In color film printing, correction is automatic. Threading of film is fast and simple—all controls are on the front panel for convenience, safety switches and brakes are provided.

Film Buckle Trip

The Camera Mart, Inc., 1845 Broadway, New York, N. Y., announces a film buckle trip for the Arriflex 35mm camera. Device automatically stops camera in event of loss of film loop, preventing damage to camera film transport mechanism. The Camart Buckle Trip can be installed in customer's camera within 48 hours. Cost of parts and installation is $69.50.

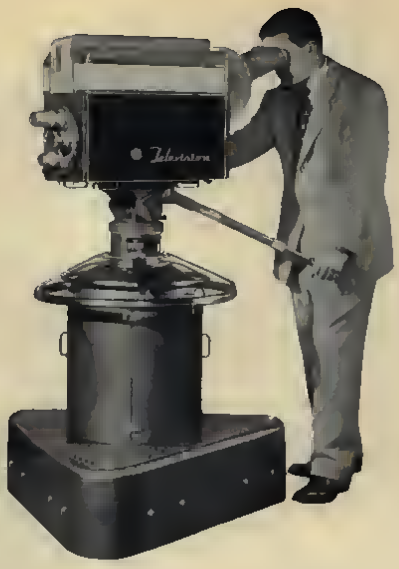
(Continued on Page 50)

PANORAM DOLLY gives camera complete mobility, smooth panning, dolly shots, running shots, special effects Two man crew.

CINEMOBILE offers extreme maneuverability Camera boom raises hydraulically, ideal for smooth dollying, panning, etc Two man crew

HOUSTON-FEARLESS TC-1 CRANE raises camera to extremely high and low positions Permits "fluid motion" shots, Foot-operated panning.

HOUSTON-FEARLESS All Metal Tripod on Tripod Dolly gives mobility to cameras at low cost. Completely portable. Ideal for remotes.



CAMERA is counterbalanced in Model PD-3 TV Pedestal by Houston-Fearless, enabling cameraman to raise or lower with ease

WHICH TYPE OF CAMERA MOUNT SHOULD YOU BUY?

Proper mounting of television and motion picture cameras is essential for efficient operation, smooth production and good showmanship. Choice of mobile equipment should be determined by the size of your studio, types of shows, size of camera crew, camera equipment used, budget and many other factors.

Each piece of Houston-Fearless equipment shown here has been designed for a specific purpose. Each is the finest of its type, the standard of the industry.

A Houston-Fearless representative will be happy to analyze your requirements and recommend the equipment that will serve you best. Write or phone: The Houston-Fearless Corp., 11801 West Olympic Boulevard, Los Angeles 64, California. BRadshaw 2-4331. 620 Fifth Avenue, New York 20, N. Y. CIrcle 7-2976.

MODEL ST-1 CRANE has power drive, hydraulic lift. Provides lens height from 2' to 10'. Developed for Motion Picture Research Council.

TV PEDESTAL MODEL PD-1 by Houston-Fearless is operated by cameraman. Rolls smoothly, raises, lowers, turns on own radius.

YOU ASKED FOR IT!

Requests from many Kinevox users for a Kinevox-quality 16mm synchronous recorder at a reasonable price gave our engineers a big job.

HERE IS THE RESULT!

Designed and engineered especially for 16mm film. New design — New Electronics — New Ideas!

Special precision instrument ball bearings and compo oil-retaining bearings.

●

Plays all track positions without head adjustment.

●

Panel size 12¼" x 11" x 7⅜" Power required 70 watts Total weight, cased 27 lbs

●

Airplane luggage style case with removable front

●

Transport and amplifiers in one unit

400-ft 16mm film capacity No reels required

●

Self-contained pre-amplifier operates directly from low impedance microphone

●

Latest type lo-noise tubes, DC heater supply, shock-mounted tube sockets

●

Bodine synchronous salient-pole motor with filtered drive

●

Cannon XL connectors

$695.00

Features illuminated VU meter . . . "Ears" for rack mounting available . . . Can be supplied for any voltage and frequency . . . Matching film phonograph available . . . Push-pull law-distortion bias supply . . . Power receptacle for camera . . . Complete specifications, performance data and curves available on request.

Designed, Manufactured and Guaranteed By

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TELEPHONE. Victoria 9-3291

KINEVOX INCORPORATED

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CALIFORNIA
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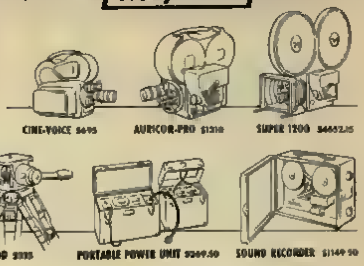
HERE UNDER ONE ROOF

... the One-Stop Source for all your

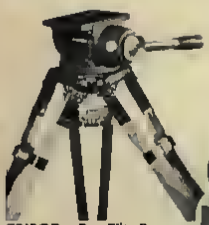
FILM PRODUCTION EQUIP.

The Auricon Hollywood Line



AURICON

16mm Sound-On-Film for Professional Results!



TRIPOD — Pan-Tilt Professional, velvet-smooth action, $325 and up.

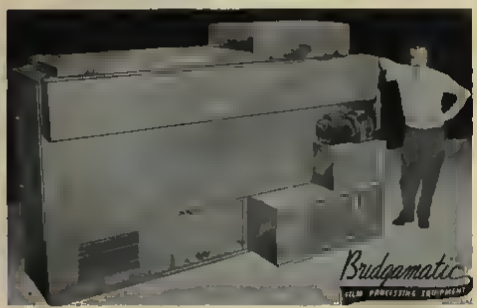
"CINE-VOICE" capacity for 2¾ minutes of recording. $695 and up.

ALL AURICON EQUIPMENT IS SOLD WITH A 30-DAY MONEY-BACK GUARANTEE. YOU MUST BE SATISFIED.

WRITE FOR AURICON CATALOG

"AURICON-PRO" capacity for 5½ minutes of recording. $1310 and up.

"SUPER 1200" capacity for 33 minutes of recording $4652.15 and up.



BRIDGAMATIC 416D35, combination 16/35mm high speed automatic film developing machine, totally enclosed for daylight operation—one of 12 standard models

DEVELOP YOUR OWN FILMS

A true one-name lab Entirely automatic! Capable of speeds up to 3000' per hr. positive, 1200' per hr. negative depending on developing times Standard design has open tanks outside feed in and take up reels Variable speed transmission gives graduated control from zero to infinity Built-in drybox allows 15 to 30 minutes drying time **Write for illustrated brochure.** Other models $1095 up

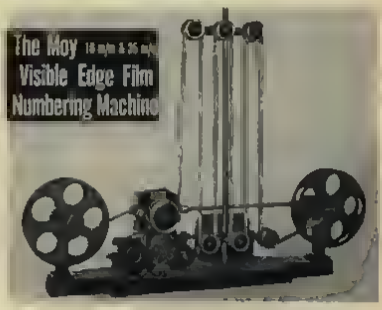
AMONG RECENT PURCHASERS ARE:

U S. Army, Frankford Arsenal, Philadelphia, Pa
A I. Dupont Inst (The Nemours Foundation), Wilmington, Del
U S Naval MicroFilm Laboratory, Washington, D C

A PRODUCT OF FILMLINE CORP.

Avoid the annoyance and many man hours now lost classifying films without titles.

The MOY edge members every foot of 16 and 35mm film and simplifies the task of checking titles and footage.



IDENTIFY YOUR FILMS INSTANTLY

The MOY replaces cue marks, messy crayons, punches, embossing—does not mutilate valuable film Work prints showing special effects, fades and dissolves require edge numbering to keep count of frames cut or added Multiple magnetic tracks in CinemaScope stereophonic recordings make edge numbering a MUST

With new improved Non-Clog Inkleg System $247.5

Present MOY owners can easily install the new and improved inking system!

AMONG RECENT PURCHASERS ARE:

Reeves Soundcraft, Springdale Conn
Holland & Wagman, Buffalo N Y
American Optical (Todd AO), Hollywood
Indonesian Supply Mission, N Y C
Cinerama Productions New York
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"The Department Store of the Motion Picture Industry"

S.O.S. CINEMA SUPPLY CORP.

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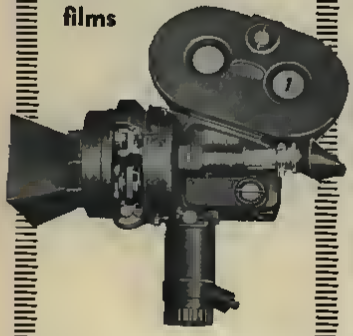
S.O.S. EST. 1926

ARRIFLEX

New 35 mm Model 2A
With 180° Shutter

A TRULY GREAT CAMERA

for TV, Newsreel and commercial films



For tough and trying assignments, ARRIFLEX 35 is in a class by itself. Reflex focusing through photographing lens while camera is operating—this is just one outstanding ARRIFLEX feature.

Equipped with bright, right-side-up image finder, 6½ x magnification. Solves all parallax problems. 3 lens turret. Variable speed motor built into handle operates from lightweight battery. Tachometer registering from 0 to 50 frames per second. Compact, lightweight for either tripod or hand-held filming. Takes 200' or 400' magazine. Write for free folder.

Blimp now available.
16mm ARRIFLEX also available.

FRANK C. ZUCKER
CAMERA EQUIPMENT CO.
1600 BROADWAY NEW YORK CITY

INDUSTRY NEWS

Thirty Technical achievements in motion picture production practice have been submitted to the Scientific and Technical Awards Committee of the Academy of Motion Picture Arts and Sciences, Hollywood, for consideration in this year's "Oscar" awards.

Pursuant to Academy policy, the following list of achievements is being published in the press to permit those having claims of prior art or devices similar to those under consideration to bring them to the committee's attention:

Reflected light units, Metro-Goldwyn-Mayer.

Portable Remote Control Console, Universal-International.

Heating Element for Motion Picture Cameras, Metro-Goldwyn-Mayer.

Brightness Spot Meter, Photo Research Corp.

Comparator, M-G-M.

Electronic Comparator System, Columbia Pictures.

Improved Magnetic Transfer Machine, Columbia Pictures.

Photo-magnetic Recording Method, Columbia Pictures.

Multiplex Electronic Monitor, Columbia Pictures.

Westrex Densitometers, Westrex Corporation.

Combination Photo Lens for CinemaScope, 20th Century-Fox studio.

Perspecta Sound System, Perspecta Sound.

Stereophonic Magnetic Sound Recording, Cinerama.

Four-track Magnetic Cluster, RCA.

Magnescope Cathode Scanner, Magnescope.

Magnetic Film Editing Machine, M-G-M.

Magnetic Film Cutter and Splicer, M-G-M.

Mitchell VistaVision Camera, Mitchell Camera Corp.

VistaVision Double-frame Projector, Century Projector Co.

Synchronized Magnetic Tape Recording, Rangertone.

Graphic Equalizer, Goldwyn Studio.

VistaVision, Paramount Pictures.

New Projection Framing Device, Paramount Pictures.

Variable Focus Device, M-G-M.

Triple-head Process Projector, M-G-M.

New Light Source, Warner Brothers.

Electric Cable Reel, Universal-International.

Portable Electric Fog Machine, Universal-International.

Spiral Fluted Columns, Universal-International.

Fabrication of Shutter Slats, Universal-International.

After study and investigation of the above, demonstrations of achievements will be held in February for the committee, after which final meetings will be conducted to determine the Awards recommendations for the Academy's Board of Governors.

★

Production of television films in Hollywood has grown to such proportions that is has created new demands for studio space. As a result, TV rather than theatrical film production has necessitated new studio and stage construction in the film capital.

At Republic studios, a four-stage building has been constructed for its own and subsidiary TV film production companies. Columbia Pictures is planning erection of two new stages for production of its Screen Gems video films.

The TV film boom has also resulted in expansion programs at Kling, American National, California, General Service, Motion Picture Center, Hal Roach, and RKO-Pathe studios. More than seven and a half million dollars are expected to be expended by these studios for new construction.

★

Gevaert color film is soon to make its bow in this country. The Belgian company, through its subsidiary, Gevaert Company of America, will launch its sales drive after expiration of the American rights to the process' patents held by Ansco. The Gevaert process is based on the old German Agfa color system.

★

DuPont Photo Products division will open a new office building and warehouse in Dallas, Texas, January 18th, at 16820 Oak Lawn Street.

★

Fairchild Camera and Instrument Corp. has announced plans for construction of a new plant in Los Angeles, to meet the growing demands for its products by industries on the West Coast.

WORTH
WAITING FOR

ARRIFLEX 16®

The World's Outstanding 16mm Camera

Because it has so much more to offer, the Arriflex 16 has become the most wanted 16mm camera in the field. The demand has been greater than the supply from the very beginning . . . and for the best reasons in the world.

• The Arriflex 16 is the only 16mm camera with a mirror-reflex shutter for continuous thru-the-lens focusing and viewing—even during actual shooting. There is no beam-splitting and no light loss; no parallax and no need for extra finders.

• It is equipped with registration pin assuring absolute frame registration and rock-steady pictures.

• A built-in electric motor drive permits uninterrupted filming—no need to stop and wind a spring.

• By employing a diverging turret, 3 lenses from extreme wide-angle to 300mm telephoto can be simultaneously mounted—without physical or optical interference.

There are a host of other features that equip the Arriflex 16 for every possible type of professional filming. Footage and Frame Counters—Tachometer—Detachable Matte Box—400 ft. Accessory Magazine, etc. Its extreme compactness and light weight (only 7½ lbs. with Matte Box) makes it also ideally suited for hand-held shooting.

The quality, performance, and exclusive features of the Arriflex 16 have created a great demand for this camera. To assure earliest possible delivery, we strongly urge you to place your order now. And even though there is some delay, remember . . . the Arriflex 16 is worth waiting for.

ARRI

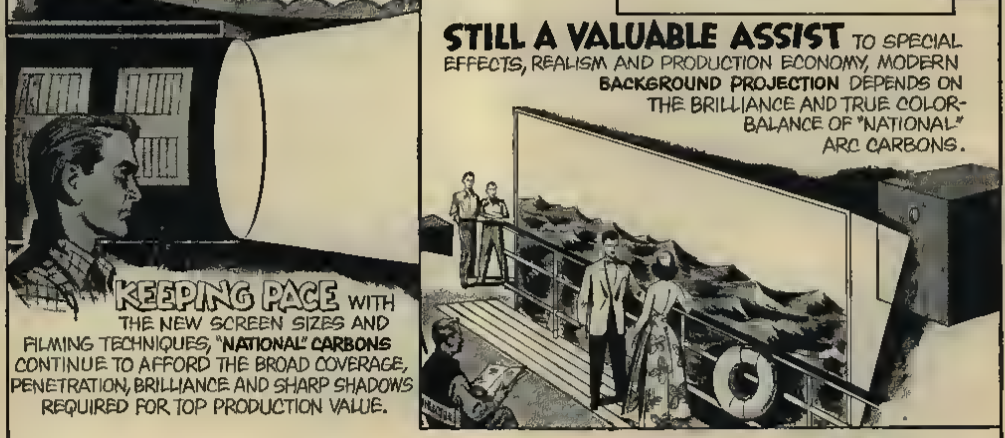
For complete information concerning Arriflex 16mm and 35mm cameras, and Arri film lab equipment, write to

KLING PHOTO CORP. • 235 Fourth Ave., New York 3, N. Y. • 7303 Melrose Ave., Los Angeles 46, Calif.

SEEING IS BELIEVING!

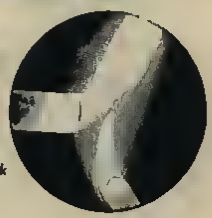
HOW IT STARTED...FIRST KNOWN USE OF ELECTRIC SET LIGHTING—BACKGROUND PROJECTION AT THE **PARIS OPERA** IN 1846. LIGHT FROM A PRIMITIVE ARC-LAMP WAS REFLECTED ON A SILK SCREEN TO REPRESENT THE RISING SUN.

STILL A VALUABLE ASSIST TO SPECIAL EFFECTS, REALISM AND PRODUCTION ECONOMY, MODERN **BACKGROUND PROJECTION** DEPENDS ON THE BRILLIANCE AND TRUE COLOR-BALANCE OF "NATIONAL" ARC CARBONS.



KEEPING PACE WITH THE NEW SCREEN SIZES AND FILMING TECHNIQUES, **"NATIONAL" CARBONS** CONTINUE TO AFFORD THE BROAD COVERAGE, PENETRATION, BRILLIANCE AND SHARP SHADOWS REQUIRED FOR TOP PRODUCTION VALUE.

THE "NATIONAL" CARBON ONE...NOTHING BRIGHTEN UNDER THE SUN



The term "National" is a registered trade-mark of Union Carbide and Carbon Corporation

NATIONAL CARBON COMPANY

A Division of Union Carbide and Carbon Corporation, *30 East 42nd Street, New York 17, New York*

Sales Offices. Atlanta, Chicago, Dallas, Kansas City, Los Angeles, New York, Pittsburgh, San Francisco

IN CANADA Union Carbide Canada Limited, Toronto

A Year of New Products

for motion pictures . . . .
. . . . and television

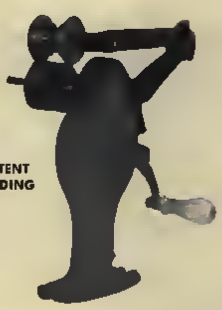
HERE'S 8 REASONS

WHY YOU NEED THE UNIVERSAL

CAMART TIGHTWIND ADAPTER

- JUNKS SPLIT REELS AND FLANGES!
- Designed to fit all rewinds.
- Chrome plated ball-bearing roller guide.
- For left and right side rewinds.
- Core adapter fits 16mm and 35mm male and female plastic cores.
- Saves stormo film on reels.
- Eliminates cinching and film abrasions.
- Does not interfere with normal use of rewind.

PATENT PENDING



$29.00

● CAMART TV MATTE for MOVIOLA

Now your film editor or sponsor can view your TV films on your 35mm Moviola with the exact area matted as it would appear on home television receivers. Aluminum, flat anodized black, precision cut.

$4.95

CAMART SLATE and CLAPSTICK

PRICES SLASHED!

LARGE 10" x 12" PROFESSIONAL SOUND SLATE HIGH QUALITY — LOW COST

$4.75

FLASH — FOR ARRIFLEX USERS!

Our research department has developed and made available, an ARRIFLEX CAMERA BUCKLE TRIP designed to shut off your camera motor INSTANTLY in the event of loss of loop, or if the take-up fails to operate for any reason. Prevent damage to your camera, save expensive parts and repairs, and loss of time. Installation within 48 hours.

$69.50

● CONE-LITE

New 24" diameter cone light for 1000 watt or 2000 watt T48-3200 Kelvin bulbs. A practical and shadowless light giving 120° angle of illumination. Great for color or black and white. Ideal for television, wide application for motion picture studies.

HEAD ONLY **$150.00**

● CAMART SYNC FILM TIMER

For post-recording, narration, and dubbing, a combination of precision footage counters and synchronous timers designed for ease of operation and exact results. Write for new AMAZINGLY LOW PRICES!

● CAMART ROOF-TOP CLAMPS

A safe method of insuring a steady tripod support for your motion picture or television newsreels when atop a car or station wagon platform. Heavy, bronze construction, weatherproof. Set of three

$28.00

SPECIAL SERVICES

AUTHORIZED BAUSCH & LOMB BALTAR LENS AGENCY.
FACTORY APPROVED SERVICE & REPAIR OF BELL & HOWELL EQUIPMENT.
BALTAR LENSES MOUNTED FOR ALL 16-35mm CAMERAS.

THE **CAMERA • MART** INC.

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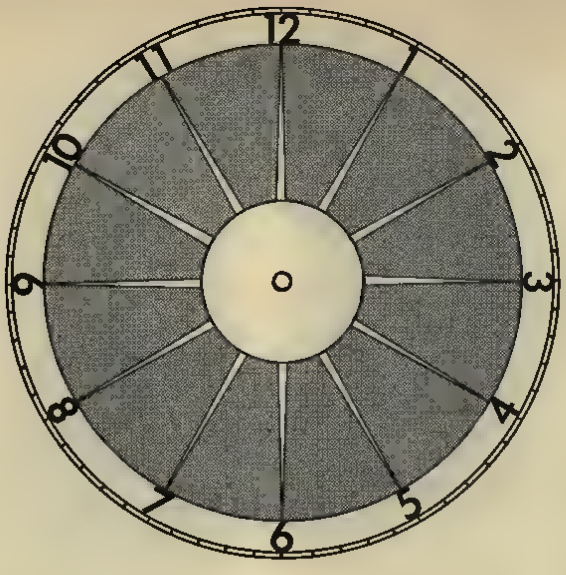


Something missing *from your film processing picture? At Precision we've learned over the years that selective printing for every scene plays a vital role in a perfect print — and that only expert human judgment can be depended on to select that timing value.*

Leaders in the film industry—directors, producers, cameramen—have learned that Precision alone offers such fully rounded experience and skill in film processing.

In everything there is one best...in film processing, it's **Precision.**

A division of J. A. Maurer, Inc.

)EDICATED TO BETTER PERFORMANCE

COLLAPSIBLE 3-WHEEL DOLLY

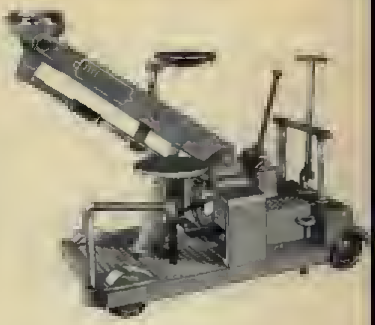
For motion picture and TV cameras. Sturdy cast aluminum. For standard or baby tripods. Additional baby tripod point holders to control spread of tripod legs. Adjustable spring seat. Extra wide rubber wheels. Bronze tie down clamps and other features.

For studio or location. Folds into one compact unit. Can be used with professional or semi-professional tripods.

'HYDROLLY'

TV OR CAMERA DOLLY

The advanced dolly for instant moveability — streamlined, lightweight, exceptionally sturdy. Nothing to get out of order. Many new advantages for easy operation. Hydraulic lift type for fast upward and downward motion of TV and motion picture cameras.



Swivel seat. Adjustable leveling head. Seat for assistant. In-line wheels for track use. Steering wheel, rigid floor locks. Hand pump or combination hand and motor pump. Easily transported in a station wagon. Fits through a 28" door.

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"T" STOP CALIBRATION
DESIGNING and MANUFACTURING

lens mounts & camera equipt. for 16mm, 35mm, TV cameras.

BAUSCH & LOMB "BALTAR" LENSES and others

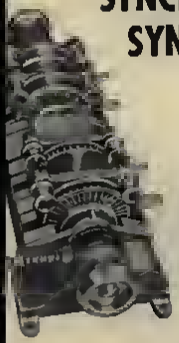
for motion picture, TV cameras

COMPLETE LINE of 16mm, 35mm cameras, dollies, synchronizers, animation equipment, cutting room and time lapse equipment.

BELL & HOWELL: Standard, Eyemos, Filmos. MITCHELL: Standard, Hi-speed, BNC, NC, 16mm.

SEND FOR CATALOGUE

SYNCHROMASTER SYNCHRONIZER



Our Exclusive Distributor
Neumade

Any combination of 16mm and/or 35mm sprockets assembled to specification. Cast aluminum. Foot linear type, adjustable frame dial. Fast finger roller release. Contact rollers adjusted individually for positive film contact. Sprocket shaft slip lock, footage counter, etc.

ColorTran Groverlite SENIOR & JUNIOR KITS

"A STUDIO IN A SUITCASE"

ColorTran replaces heavy and expensive equipment...gives you illumination up to 5000w. from an ordinary 20 amp. house current. Equipped with barndoors, diffuser slots for silks, snoots and other accessories. Ideal for studio or location shots.

PORTABLE MICROPHONE BOOM

For Studio or on Location. Lightweight — collapsible — for TV and motion picture production. Sturdy construction. Boom telescopes 7 to 17 ft. Rear handle for directional mike control. A remote control permits 360° rotation of the microphone. Operator can push the boom and operate microphone swivel simultaneously. Extension rods make it simple to operate microphone rotation from floor. Microphone cable hangs outside of boom, preventing cable from tangling with the rotation mechanism. Ball bearing casters, rigid foot locks, pneumatic drop check for lowering the boom, etc.

VARIABLE-SPEED MOTOR with TACHOMETER

for Cine Special or Maurer Cameras

115 V. Universal Motor — AC-DC
Separate Base for Cine Special.
Variable Speed 8-64 frames.
Adapter for Maurer Camera.

INTERCHANGEABLE MOTORS: 12 volt DC Variable Speed 8-64 frames. 115 Volt AC 60 Cycles, Synchronous Motor, Single Phase.

ANIMATION MOTORS: Cine Special, Maurer, Mitchell, B & H Motors, for Bolex and Filmo Cameras.

ATIONAL CINE EQUIPMENT, Inc.

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Production Equipment SPECIALS For The New Year!

CAMERAS

MITCHELL 35mm camera, 2 1000' mags, motor, 40mm, 50mm, 75mm Astro f2 3 lenses, sunshade, viewfinder, tripod, cases, first class condition $4,900 00

EYEMO 71K Cameras, from $295 00 and up

ARRIFLEX 2-200' mags, three lenses, sunshade, motor, excellent ... $595 00

CINEFLEX, 2-200' mags three lenses, motor, case, fine condition ... $650.00

DEVRY newsreel camera, two lenses governor speed control ... $150 00

AURICON Pro camera, auto parallax finder brand new amplifier with sound accessories camera like new ... $1,250.00

WESTERN ELECTRIC 16mm camera, three lens turret, built in 6 volt motor 200' capacity, includes galvo for single system sound, with case, special $595 00

ARRIFLEX 16mm cameras in stock

ARRIFLEX 35mm blimp and cameras in stock

EDITING EQUIPMENT

MOVIOLA 35mm Preview, composite and separate sound, completely reconditioned, first class working condition.. $1,695.00

MOVIOLA 16mm picture head, used ... $365 00

MOVIOLA 35mm picture head, new, with footage counter installed ... $465 00

SYNCHRO READER attaches directly to your Moviola synchronizer for reading magnetic film, with speaker ... $99 50

MOVIOLA 35mm sound reader $79 50

ACE 35mm rotary viewer w/counter and image erector, like new ... $199 50

FILM EDITORS STOP WATCH ... $13 95

MICRO 2/35mm synchranizer ... $89 50

BIG SAVINGS ON COLORTRAN KITS!

Senior Kits, new, previous model $185 00

Senior Kits, used, perfect ... 165 00

Junior Kits, new, previous model 145 00

Junior Kits, used perfect ... 125 00

Spot kits, new, previous model 195 00

Spot kits, used, perfect ... 175 00

Movie model converter, previous model with Kelvin and amp meters, takes 16 20 bulbs, excellent ... $125 00

FOR NEWSREELS, portable battery operated light with charger, new lightweight unit ... $195.00

FLUORESCENT lighting units, takes six 20 watt bulbs, ideal fill light, new, original cost $150.00, specially offered at ... $21.50

MISCELLANEOUS

HALLEN 22B magnetic recorder for 17 5mm film, two channel mixer, playback speaker, counter, erase sync speed ... $995.00

MAURER model D 16mm optical recorder, amplifier, power supply sync motor, two 400' mags, cases, excellent $2 495.00

ARRIFLEX sync motor and base $325.00

MAURER blimp, follow focus, lightweight metal construction, soundproof $495 00

MOTOR, variable speed, for Cine-Special, with case, like new ... $295.00

ARRIFLEX power unit converts 110 volts AC to 12 volts DC, new ... $110.00

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Booklets Catalogs Brochures

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Stage Lighting

An informative 24-page booklet, "A Handbook on Modern Stage Lighting," is available from Metropolitan Electric Mfg. Co., 2250 Steinway St., Long Island City 5, N. Y. It describes in rather complete detail manually-operated and remote-control stageboards. Although the descriptions apply to stage use, the company's equipment has similar use in motion picture and television studios

★

Tropical Photography

An extensively revised edition of its booklet, "Notes on Tropical Photography" has been published by Eastman Kodak Co., Rochester 4, N Y. Punched to fit the Kodak Photographic Notebook, it is available from the company's Sales & Service Division.

★

Cine Camera Lenses

Available from Wollensak Optical Co., Rochester 21, N. Y., is a 28 page booklet describing and giving the technical specifications of the Wollensak line of Masterpiece Cine Raptar Lenses for 8mm and 16mm cameras. It will prove especially valuable as a lens data source for the professional 16mm cameraman.

★

Coated Lens Care

"The Care and Nature of Coated Lenses" is title of educational 16-page booklet offered by Bausch & Lomb Optical Co., Rochester 2, New York. The booklet illustrates typical lens damage and explains how to avoid same. Valuable information for pro and amateur alike.

★

Lab Equipment Data

Photovolt Corporation, 95 Madison Ave., New York 16, N. Y., now has available comprehensive descriptive brochures on its line of equipment, including Transmission and Reflection Densitometers, Sound Track Densitometer, Electronic Printing Timer, and the Model 200-A Exposure Photometer.

★

Title Letters

An informative brochure and samples of Graforel ready-gummed cork title letters may be had by writing Grace Letter Company, Inc., 77 Fifth Ave., New York 3, N. Y.

Cine Lens Data

"Elgeet Lenses For More Exciting Movies," is title of comprehensive, illustrated brochure offered by Elgeet Optical Co., Inc., 838 Smith St., Rochester, N. Y. Illustrated and described and diagrammed are the company's line of lenses for 8mm and 16mm cameras, including standard wide-angle and telephoto.

★

Animation Equipment

Readers interested in professional equipment for the production of animated films will find interest in the six-page illustrated brochure now available from J. G. Saltzman, Inc., New York 17, N Y. Also illustrated and described is an optical printer for special effects work, which offers a wide range of tricks and effects.

★

Zoom Lens Brochure

The popular Zoomar 16mm varifocal lens is described in a colorful illustrated brochure offered by Zoomar, Inc., Glen Cove, Long Island, New York. Chapters deal with such matters as Depth of Field, Adjusting The Zoomar to Your Camera, and a General Description of the lens.

★

Acme Equipment Catalog

The well-known line of Acme special motion picture equipment is illustrated, described and priced in a new 8½" x 11½" catalog now available from the Producer's Sales Corp., 2704 West Olive St., Burbank, Calif. Included are comprehensive descriptions of the Acme Process Camera, Acme Stop Motion Motor, Variable Speed Sync Motor, Animated Stand components, Process Projector Head, Printer Lamp House, Matte Shot Projector, and TV Recording Camera.

★

THE LITERATURE described above contains a wealth of valuable data for the cinematographer and others in the film industry Unless otherwise indicated, copies are free. Requests should be addressed directly to the company named—not to American Cinematographer.

—EDITOR

to put *Life* on film...

**Scene from "The Egyptian," 20th Century-Fox CinemaScope Epic.*

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ORDER from your professional camera manufacturer or **WRITE** to Bausch & Lomb Optical Co., 30037 Martin St., Rochester 2, N. Y.

*To film "The Egyptian," 20th Century-Fox chose the new B&L 40mm Baltar CinemaScope Lenses—cine and anamorphic lens elements in a unified mount operated by a single control.

BAUSCH & LOMB

SINCE B&L 1853

The Mitchell-built VistaVision camera.

Todd-AO wide-screen camera

Disney-built underwater camera blimp

Technical Progress In 1954

Refinements and new departures in photographic technique and equipment highlight the industry's progress during the year just passed.

By ARTHUR E. GAVIN

MUCH OF THE TECHNICAL progress achieved by Hollywood's motion picture industry during 1954 is directly attributable to the frightening jolt it had received the previous year when the rather sudden advent of 3-D, Cinerama and CinemaScope almost brought production to a standstill. What was taking place, of course, is what has occurred at intervals before in the industry—a revolution and the dawning of a new era of technical progress.

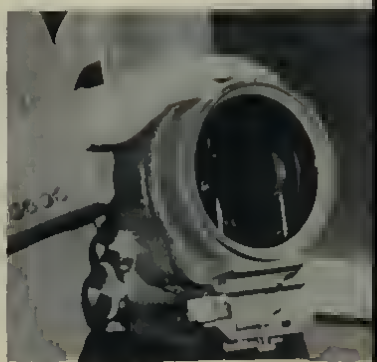
This time it was the photographic phase of film production that was being affected. Stereo, Cinerama, and CinemaScope—all these "new" systems began with radical changes in the procedure of photographing a picture. By January of this year, 3-D was clearly on the way out as a popular medium of theatrical film presentation. Cinerama continued to gather popularity, and new Cinerama productions were already in the making. Fast footwork on the part of 20th Century-Fox executives had sold CinemaScope to the majority of the nation's exhibitors and they were already at work to effect a similar coup in Europe. By January 1st, 1954, CinemaScope had become a solidly established system of film production and exhibition.

The original anamorphic lenses which 20th Century-Fox had imported in order to shoot its first CinemaScope production, "The Robe," had been analyzed by Bausch & Lomb and greatly improved. Very soon B&L was supplying new and better CinemaScope lenses to Fox, which enabled the studio to expand its slate of CinemaScope productions. In all this endeavor, Sol Halprin, A.S.C., Fox Studio camera department head; Grover Laube, camera engineer, and Earl Sponable, the studio's technical director, made important contributions.

By June of last year, Bausch & Lomb had so improved its design of anamorphic lenses, that it now was supplying Fox and other studios with CinemaScope lenses in various focal lengths, ranging from a 12-element 40mm up to 152mm. These lenses possessed important new attributes, not found in the first CinemaScope lenses, including improved resolving power, greatly reduced distortion, enhanced definition and improved color correction.

Although, by early 1954, most of the other majors were swinging over to CinemaScope production, one studio—Paramount—believed it had a better system. This studio had for several months experimented with still another new method of motion picture photography in which the film travelled horizontally, instead of vertically, and exposed a frame 8 sprocket-holes in width, equivalent to two frames of standard 35mm. (See Amer. Cinematographer for December, 1953, page 588.)

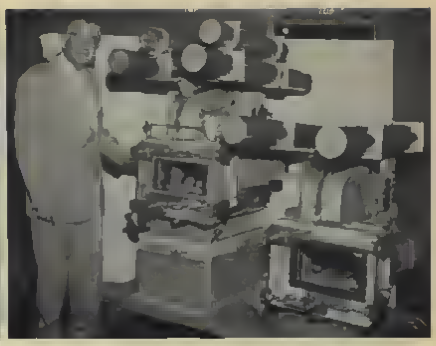
Paramount engineers, headed by Loren Ryder, were convinced that an



New, improved CinemaScope lens built by Bausch Lomb Optical Company.

KO underwater camera.

Another RKO underwater camera.



John Arnold and MGM's underwater cameras

aspect ratio of 1.85 to 1 was not only more desirable from an esthetic standpoint but was more adaptable to the majority of the nation's theatres. (Many had been considered too narrow to accommodate the very wide screen required for the 2.55 to 1 aspect ratio of CinemaScope.)

Experiments began with a camera that had been built back in the 20's by William P. Stein for the old William Fox "Natural Color" system. This was a two-color system that required the negative to move past the gate two frames at a time. Paramount engineers turned the camera on its side, changed the aperture to take a lens that would cover an area two frames in width, and after a series of tests, turned the camera over to Loyal Griggs, A.S.C., to use in filming Paramount's "White Christmas."

This new photographing system, which was originally dubbed the "Lazy-8" by Paramount, had definite advantages. By starting with the extra large negative and reducing the image by printing on standard 35mm color print stock, grain size was reduced and greater clarity was achieved.

By April, 1954, Paramount, following the successful photography of "White Christmas" with the double-frame camera, was now definitely committed to the "Lazy-8" system, which now it had tradenamed "VistaVision." Leading manufacturers of professional motion picture cameras were invited to survey the system and to submit designs for a new VistaVision camera that would incorporate the horizontal film movement.

Mitchell Camera Corp., of Glendale, Calif., which had aided the studio in working out a satisfactory film movement for the modified Stein cameras, submitted a design for a VistaVision camera based on ideas which had been submitted by Paramount studio engineers. Within a very few weeks, Mitchell was at work on a prototype of the new camera and by October 1st had delivered the first of six new VistaVision cameras to Jack Bishop, Paramount camera department head. (See Amer. Cinematographer for November, 1954, page 552.—ED.)

After a period of exhaustive testing by the studio camera department, three of the new cameras were shipped to the Cecil B. DeMille Company then in Egypt, where they were used by Loyal Griggs, A.S.C.; Wallace Kelley, A.S.C.; John P. Fulton, A.S.C.; and John F. Warren in photographing DeMille's latest epic, "The Ten Commandments."

With its VistaVision photographic problems now pretty well licked, Paramount turned to the exhibition phase of

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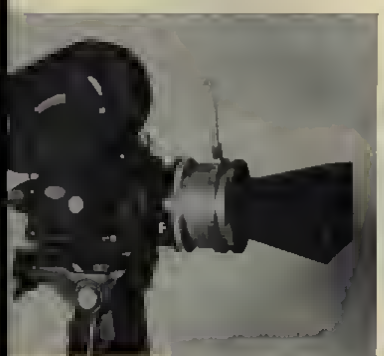
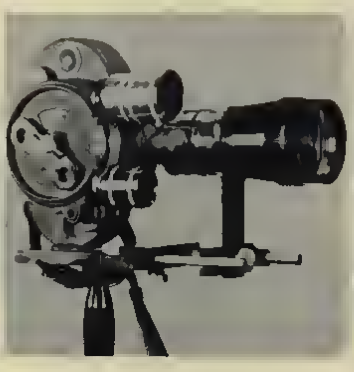
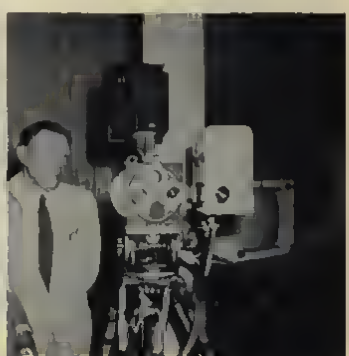


namorphic lens adapted to Arriflex 35mm camera for photography in CinemaScope format.



The Bell & Howell "FilmeRama" anamorphic lens mounted on a 16mm Filmo.



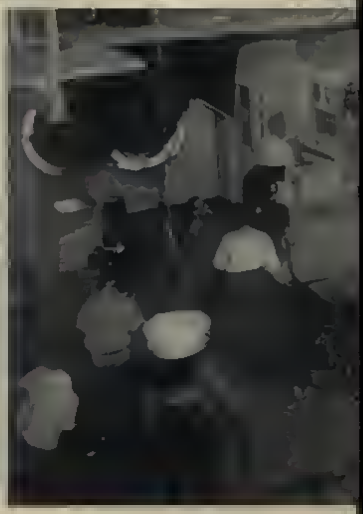
Len Rees, ASC, demonstrates the new Kinevox-Key Lab electronic viewfinder.

BENJAMIN KLINE, A.S.C., (right) directs the photography of Frank Wisbar's "Fireside Theatre" series. One of the real veterans of TV film production, Kline started shooting TV films for Bing Crosby Enterprises in 1951.

WALTER STRENGE, A.S.C., (right) has photographed over 400 TV films for Roland Reed Productions—forty last year alone. He's shown here with two stars of the "Margie" show—Charles Farrell (left) and Clarence Kolb.

PHIL TANNURA, A.S.C., (in checkered shirt) directs the photography of the "Burns and Allen Show" and "The Jack Benny Show" for McCadden Productions. Tannura is credited with several important contributions in the science of lighting sets for TV film production. He was formerly with Columbia Studio.

KARL FREUND, A.S.C., one of Hollywood's "Oscar" winners, directs the photography of the "I Love Lucy" and "December Bride" shows for Desilu Productions. Freund was one of first to use



The Big Switch Is To TV!

1954 saw the greatest number of Hallywoad's ace cameramen directing the photography of television films.

By FREDERICK FOSTER

LAST YEAR, more and more producers of TV films signed veteran Hollywood cinematographers to direct the photography of their shows. Today, almost all the men shooting the top shows on film are members of the American Society of Cinematographers.

One of the most notable things about television programs originating on film last year was the marked improvement in transmission quality—the clarity with which these shows appeared on home receivers. For this important advancement, a great share of the credit is due the men who directed the photography and who worked closely with network engineers and film laboratory technicians toward the goal of improvement.

When producers in Hollywood first started making films for video, there was a cautious approach to the lighting and the photography in view of the very poor results that the networks were achieving in the telecasting of old feature films Perhaps it was because certain cameramen knew there *was* quality in the original prints that they set about to find the reason for the great degradation that accompanied the reproduction of these films on TV—a study that was to lead them to the successful formula for photographing motion pictures especially for television transmission.

The "pioneers" in this field—men like Benjamin Kline, Walter Strenge, Karl Freund, Phil Tannura and others—worked closely with the engineers of the various film laboratories and ultimately came up with the right answers to the problems of lighting, composition and camera technique for TV films. Today, much of the science which these men developed has become standard practice in the shooting of television films.

The quest for gretaer improvement continues, however, and we find the serious men who are directing the photography of TV films continuing their work on improved lighting formulas and camera treatment in close cooperation with the laboratories that process their negatives.

It is a distinct credit to these veterans of cinematography that they met the challenge which the limitations of television transmission at firt imposed, overhauled their feature film photographing technique to fit the new medium, and therehy advanced the TV film production industry several ycars. Today, this achievement enables a sponsor to put a show on TV cheaper and with hetter results than he could possihly do it live. And the growing number of successful "hve" shows that are swinging to film attest to this.

One of the interesting things about the recent great expansion of the TV film industry in Hollywood is the way hig name cameramen are forsaking major studio assignments in favor of shooting television films. The reason is obvious, of course. In TV film production the director of photography and his

(Continued on Page 38)

...ntinuous filming" or "live show" technique of ...lographing films for TV, using three cameras ...d more or less fixed set lighting. (Photo ...urtesy Desilce Productions)

EDWARD COLMAN, A.S.C., (left), who directs the photography of the "Dragnet" show. Colmon's enique camera treatments and "corner-cutting" technique is credited with much of the success of this popular TV series.

Adapting The Zoomar Lens To The Auricon-Pro

By JOHN HOKE

FIG A—WITH THE offset prism viewer in place, the camera operator can more conveniently view subject being photographed by the Zoomar lens. Without the offset viewer, use of regular Zoomar finder hampered because it is too close to camera

BECAUSE OF THE particular design of the Auricon-Pro 16mm single-system camera, which has the lens rather centrally located instead of to the left, as with most motion picture cameras, the Zoomar 16 lens cannot be used on this camera efficiently unless some provision is made for the operator to fully utilize the Zoomar finder. This finder, as most readers know, is coupled to the zoom lens and is focused automatically with it

Where the Zoomar-16 is mounted on the Auricon-Pro, the case of the camera interferes with use of the finder—the body of the camera intersecting the finder eyepiece, as may be seen in Fig. A. The writer overcame this obstacle by installing an arrangement of prisms, which provide an offset viewing element for the finder, as may be seen in the photos above. Prism No. 1 (Fig. 2) receives the finder image and projects it to the left, where it is observed through prism No. 2 by the operator.

This modification employed two war surplus prisms held in proper alignment with the Zoomar 16 by a framework constructed of acrylic plastic as diagrammed in the figures below. The prisms were obtained at moderate cost from the Edmund Scientific Corp., Barrington, New Jersey. (Catalogue No. 3108. Specify right-angle prisms, 38mm x 38mm x 54mm.—ED.)

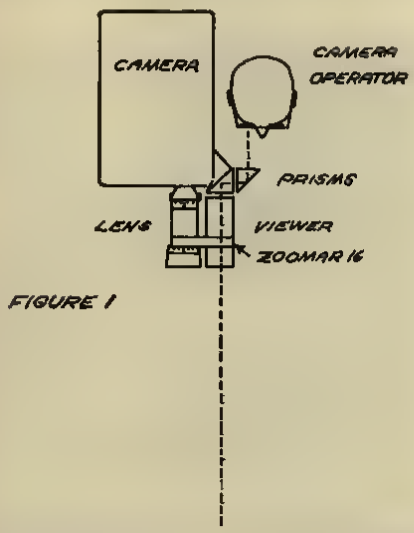


FIGURE 1

FIG. 1—Above diagram not only shows why the prism finder gadget is necessary to use of the Zoomar-16 lens on the Auricon-Pro, but also shows how it works to advantage of camera operator.

For other Auricon-Pro owners who may wish to use the Zoomar lens with their camera, the following instructions for making both the prism assembly, and the supporting bracket for the Zoomar itself (Fig. 4) may be of interest.

The prism bracket (Fig. 2) is constructed of clear Lucite ⅛-in. thick. This is obtainable in most hobby shops, as is the cement necessary for joining the pieces together. The various pieces—base plate, brace, prism brackets, etc.—may be cut from sheet Lucite with the aid of a small hand coping saw. Any rough edges may be smoothed with a file and sandpaper.

The size of the prisms which the reader uses will more or less determine the size of the various segments of the bracket assembly; but if prisms of the size already mentioned are obtained, then the baseplate dimensions should be 4¾-in. by 2½-in. The smaller rectangle—the brace—(Fig 2) should be 1½-in by ½-in. The third and fourth segments—the angular prism bracket pieces shown in Figs. 2 and 3 (the top

FIGURE 2

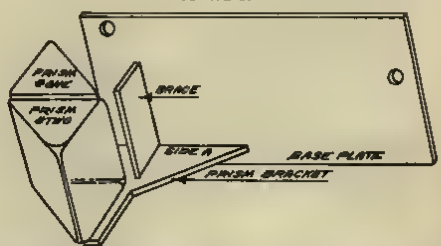


FIG 2—Method of assembling the various pieces plus prisms which go together to form the complete offset viewfinder auxiliary. Top prism bracket has been omitted here to show position of prisms.

FIG. B—CLOSEUP of the finished prism viewer. (Here black paint has not yet been applied to top and bottom prism brackets.) Prism arrangement affords convenient viewing of image by camera operator, shows sharp, clear picture of scene as picked up by Zoomar lens.

FIG. C—As the prism device is mounted entirely on door of the Auricon-Pro camera, instead of on Zoomar finder itself, opening the camera door to change film does not require removal of the Zoomar lens. When door is closed, prism viewer is accurately aligned with Zoomar finder.

bracket is omitted in the diagram in order to show position of the prisms)—may be cut according to the prism dimensions shown in Fig. 3. By placing two pieces of Lucite together, the two brackets may be cut and shaped in one operation.

For this assembly, the larger rectangle of Lucite becomes the base plate which holds the prism framework to the body of the camera. The two angular brackets sandwich the two prisms, holding them in proper alignment on the base plate, behind the viewfinder of the Zoomar lens. The smaller rectangular piece serves as a brace to support the brackets and give added rigidity to the whole.

The first step in the construction of the prism-holder and base plate is to remove the regular viewfinder from the Auricon-Pro camera. Then position the Lucite base plate in the same position that was occupied by the viewfinder. With a sharp instrument mark on the Lucite location of the rear screw hole, and the hole for the top screw in the door of the camera. Next, drill the Lucite panel as marked, using a 3/16-in. drill, and bolt it to the camera door, using the regular camera screws.

To locate the two prisms on the base plate in proper position behind the Zoomar finder, hold one of the prism brackets (Fig. 3) in position on the base plate, with side "A" flat against the base plate, as shown in Fig. 2. Then, while holding this piece in place, position one of the prisms on the bracket in such a way that one of the two *square* faces is located directly behind the Zoomar finder. Now mark position of the prisms on the bracket, and the position of the prism bracket on the base plate.

When these positions have been determined and clearly marked, the next step is to cement the prism bracket to the base plate. With a small artist's brush, apply the plastic cement to the joint formed by the base plate and the prism bracket. Hold bracket firmly in position long enough to permit a firm bond to develop between the two pieces of Lucite.

The two prisms are next cemented in place. For this use an acetate bond such as Duco plastic cement. Apply the cement to the surface of the prism bracket, then set prism #1

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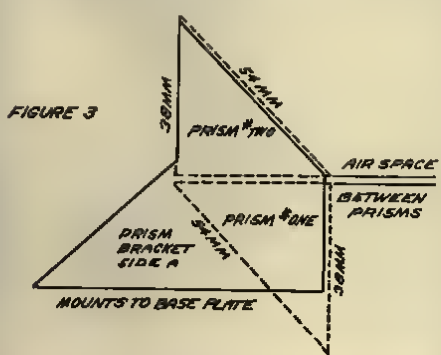

FIG. 3—Detail of the prism bracket, showing position of the two prisms when cemented in place. Note that an air space of 1/16-inch is provided between the prisms—a must.

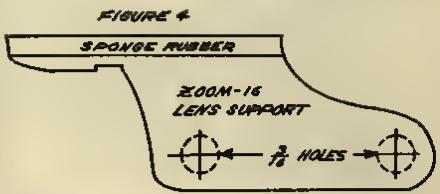

FIG. 4—Detail of support for the Zoomar lens which sits on the two matte box rods extending from front of camera. This is companion piece to prism viewer, is necessary to hold Zoomar rigid.

Low Budget Training Film Production

The company-owned film production unit can make important contributions toward efficient and profitable operations.

By ARTHUR H. SMITH

WHEN THE PLANT training group of the Pacific Telephone Northern California & Nevada Plant Department set up its visual aids section seven years ago, a major part of the planning included the establishment of a company unit for the production of training films. Until then, the main source of such films had been from outside producers or the A. T. & T. The great need was for company-produced films that would deal more specifically with local problems.

Recently, the 27th film made by the company's film production unit was completed. Because its method of production followed pretty closely the pattern set by predecessor films, and because it demonstrates what an important contribution a film production unit such as this can make toward building efficiency for a large company employing great numbers of people, it may be interesting to set down here how the unit functions and how it meets its many problems despite limited budgets and personnel.

The film, titled "Total Failure Healdsburg North," was designed to serve as a training aid in a special program dealing with the emergency restoration of toll cable facilities. In this case, there was no other film available, as far as we knew, dealing with this problem.

As with all successful film productions, careful preplanning preceded actual shooting. H. J. McGinnis, Toll Test Center supervisor, who had made the initial request for the film, became technical advisor. He also drafted the shooting script and played himself in the picture. And since McGinnis was stationed at the company's plant in Santa Rosa, Calif., it was decided to shoot the picture there.

During the first day and a half of production, we were shooting interiors at the Toll Test Center. Readers who are familiar with telephone company equipment centers will appreciate the problems of lighting and selecting camera setups that we encountered here. And since this production was in 16mm Kodachrome, considerable lighting units were required.

One of our more vexing problems was locating the proper power circuits for our lights. Most were protected by 15-ampere circuit breakers. We found that we could draw about 18 amperes for about a minute and a half on such circuits before the breaker would operate.

Our lighting equipment consisted of a 2000-watt Junior spot, four double No. 4 photoflood broads, two 750-watt Baby Keglites, and two single No. 4 photofloods. Only in a few shots were all these pieces of equipment used at one time. In changing from full to medium shots and then to closeups, we were able to eliminate unnecessary lights. However, in making those shots where all light units were required, it was a virtual panic. We'd plug 'em in, turn 'em on, and count the seconds. If they held for 30 seconds, we considered the connection okay, since few takes we made required sustained shooting for that length of time.

(Continued on Page 40)

TYPICAL of the close quarters encountered in the shooting of Telephone company training film. Location is interior of Toll Test Center. Ken Barren at camera, author Smith holding tape.

PREPARING to shoot closeups of operators handling calls in Telephone company Toll Operating Room. Cameraman Barren focuses his 63mm lens while author Arthur H. Smith studies the operator's actions for best camera angle for subsequent shots.

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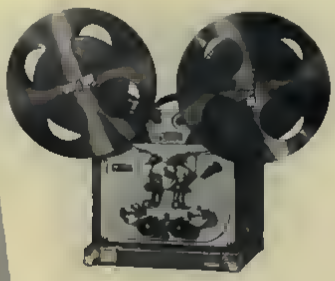

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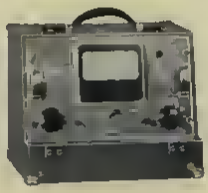

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TRI-X IN FEATURE FILM PRODUCTION

Pot pictorial and ecanamic advantages abcined through use af newest "speed" film in shaating "Black Tuesday."

By STANLEY CORTEZ, ASC

IOST SINCE the very beginning of feature film produc-ion, directors of photography have demanded more and speed in negative films As a result, panchromatic film ced the orthochromatic film of early days, and subse-tly new pan emulsions were introduced which were ily improved. Eacb new advance brought a new label—r-Pan, Super XX Pan, Plus X, and finally the new ader" film, Eastman Kodak's Tri-X.

astman, of course, disdains any reference to this new stock wonder" film, yet when we consider its remarkable speed SA 200/250—it can truly be considered so.

ntil recently, Tri-X had been chiefly used in specific tographic assignments. Then, a litule later, some television producers employed it as a means of attaining further duction economy and increased pictorial quality in the nsmitted image.

Recently, Tri-X was used for the first time in Hollywood in production of 98 per cent of a feature picture "Black esday," which I photographed for Leonard Goldstein Pro-ctions, employed Tri-X for all scenes save a very few ex-iors After seeing the results on the screen, I believe that Tri-X bas great potentialities in the production of features in black-and-white.

"AFTER seeing screen results af Tri-X used in shaating 'Black Tuesday,' says Stanley Cortez, ASC. "I believe it has great pas-sibilities for the praductian af feature films."

"Black Tuesday" is a tense melodrama about a killer con-demned to die in the chair The day of the execution, accom-plices outside the prison arrange to liberate him just moments before the execution. The killer's next move is to locate the loot which was taken in a bank robbery prior to his arrest, and which was hidden before he was caught

The action throughout the picture is tense and staged in drab surroundings, reminiscent of the films of the "gangster era" a decade ago.

(Continued on Page 44)

A GREAT many of the scenes for "Black Tuesday" were shot in rugged interiors, either on sound stage or location Here camera is being focused on Edward G Robinson and Jean Parker

A TYPICAL INTERIOR scene in "Black Tuesday," where Cortez's use of Tri-X film enabled him to gain great depth of field and at same time work with a minimum of light units In scene are (l. to r.) Victor Perrin, Sylvia Findlay, Hal Baylor and Jack Kelly (on bed).

Movies Without A Camera

Norman McLoren draws his movies on film by hand or scratches abstract designs on black leader with a pin.

By HAROLD BENSON

ONE MIGHT think that no story, no script, no conferences, no camera, no shooting and no processing could only mean *no film*. Yet Norman McLaren, "the only name now connected with motion pictures in Canada that means anything outside of the country," to quote a Toronto critic, owes his reputation to movies made with just these limitations.

Of course, he does use a camera for occasional films, though never quite like anyone else. His pixillated production, *Neighbours*, described in the November issue, is one example. But usually McLaren prefers to dispense with the processes which he feels tend to restrict a film maker's efforts at getting really personal work onto the screen.

His technique was born twenty years ago when, as an eighteen-year-old student at Glasgow School of Art, he soaked the emulsion off a worn-out 35mm print and hand-painted a 300 ft. abstract film with color dyes. Later *Color Cocktail*, a 200 ft. 16mm production made in a similar way, won an award at the Scottish Amateur Film Festival, and so excited John Grierson, the British documentary pioneer, that he took McLaren to London and set him to work at the G.P.O. Unit, where the most advanced experimental work in Europe was being done.

FIG. 1—Norman McLaren examining sequence for "Begone Dull Care," an abstract film made by applying the design by hand directly to the film. No photographic process was involved.

McLaren responded well to the congenial environment. Among the shorts he produced in this period was *Love on a Wing*, which made further use of the hand-drawn camera technique.

In 1939 McLaren emigrated to America with only a few hundred dollars in his pocket. Luckily he was introduced to an NBC television engineer to a few wealthy folk who paid him to decorate their homes with murals. Meanwhile he made several more abstract films, including *Allegro*, *Scherzo*, *Dots*, *Loops*, *Stars and Stripes* and *Boogie Doodle*, and sold a few to the Guggenheim Museum of Non-Objective Art.

During a brief spell as script and lyric writer with Caravel Films, Inc., New York, McLaren was again contacted by Grierson, who put him in charge of animation at the National Film Board of Canada. The five wartime propaganda films which McLaren produced for the N.F.B.—*Mail Early*, *V for Victory*, *Five for Four*, *Hen Hop* and *Dollar Dance*—were all made without a camera. So were three of McLaren's best-known post-war productions, *Hoppity Pop*, *Fiddle De Dee* and *Begone Dull Care*.

There are two principal techniques employed by McLaren in making his cameraless films. The first is used for the productions which he says are simply designed "to give the intellect a rest," and have evolved from his earliest experiments with color dyes. This kind of film presents a non-stop series of vigorously changing patterns accompanying equally vigorous music (Fig. 1).

In *Fiddle-De-Dee*, the track was of "Listen to the Mocking Bird" played by an old-time fiddler. *Begone Dull Care* was made to music played by the Oscar Peterson jazz trio. Dazzling colors dart about the screen at a breathtaking pace, yet still convey innumerable subtle hints and asides about the music they illustrate. No one is more thrifty with footage than McLaren. At the end of *Begone Dull Care* his own name is scratched on a single frame followed by ten or twelve frames of black leader. Persistence of vision does the trick.

The tremendous pace of these abstract films is hardly surprising; McLaren explains that the technique he uses largely ignores individual frame divisions. In other words, the film is hand-painted two or three feet at a time. There is no attempt at creating an image by image effect.

In making *Fiddle-De-Dee*, McLaren used celluloid dyes, inks and transparent paints, and frequently painted on both sides of the clear 35mm film. He achieved his textures by brush stroke effects, scratching off the paint, spraying, stippling and mixing different types of dyes on the film to provoke a kind of "oil and-water" reaction.

The sound track had been measured before painting began, of course, and the lengths in which the film was painted were metrically organized to fit the music. The painted film acted as a master positive for all subsequent color release prints.

In *Begone Dull Care*, McLaren and his assistant, Evelyn Lambart, went one stage further and made a considerable

FIG 2—McLaren at work with apparatus he invented for his single-frame "drawing-on-film" technique. Image drawn on last frame is reflected in turn onto next frame of film, enabling McLaren to trace it with ink.

FIG 3—Tracing image with ink. Note frames which have preceded this one. Film is automatically advanced a frame at a time as each drawing is completed.

FIG 4—McLaren scratches some "doodles" on a strip of film which has been coated with opaque paint for one of his abstract, "cameraless" motion picture productions.

FIG 5—Rollers are used where patterns or designs are to be repeated. Textured design which preceded the rolled-on pattern was created by spraying color through cloth netting.

part of the film on a running moviola. For some sequences a sponge was used to apply a quick-drying paint having a cellulose base ("Craftint") to the film as it ran through the machine. By moving the sponge from side to side stripes were made to sway across the film. Another sequence involved scratching lines on running black leader with a pin. (Fig. 4)

A tooth comb, ball bearings, lace, hair nets and gear wheels also were used in applying the paint. An ordinary fly spray gun shot the stuff onto the film through everything from dishcloths to chicken wire to give different textures. (Fig. 5.) Some of the film was sandpapered before the paint was applied to give a smoky result. Doodling with a pointed knife on a layer of paint was tried, and found successful. Both acetate and nitrate stock were used, and every surface reacted differently to the paints.

But *Fiddle-De-Dee* and *Begone Dull Care* were simple to produce compared with such films as *Hen Hop*, *Dollar Dance* and *Boogie Doodle*, which used McLaren's second principal animation technique. In these cases individual frames *are* respected, and the subject, be it chicken, dollar or doodle, is actually drawn direct onto each frame in turn. This means over 7,000 drawings for a five-minute film.

Obviously characters have to be reduced to a minimum for work of such immensity. Fortunately McLaren has a genius for expressing emotion through the simple movements of matchstick figures. This is the system he uses in producing a film of this nature.

(Continued on Page 50)

Travelogues Offer Filming Challenge!

Same warthwhile tips fram a prafessional cameroman on shoating movies of prafessional character.

By CHARLES W HERBERT, A S C.

DON'T FORGET to have people active in your scenic travelogue shots! Here a cine photographer records the architectural beauties of San Xavier Mission in Tucson, Arizona, while members of his family supply human interest to the scene

THE AUTHOR, Charles W Herbert, is a veteran cinematographer who has photographed newsreels and documentary films throughout the United States, and in just about every important country on the globe. With this background of experience, he is in position to advise the aspiring amateur movie maker and the semi-professional on interesting and unusual movie making subjects and their locales.

The following article is the second in a series which Mr. Herbert is writing especially for readers of American Cinematographer Each article will dwell on the filming opportunities in specific locales or regions easily accessible, and while the reader may not find it immediately opportune to visit the filming locations described by Mr Herbert in each of his articles, there is the possibility, of course, that he may pass that way at some future date. In such event, the articles, if saved, will serve as valuable reference and guide to the best professional filming procedure—may even provide the answer to the reader's annual question of "Where to go?" for his next vacation or movie making trip.—EDITOR.

AMATEUR MOVIE makers generally fall into two classifications: 1) those who never progress beyond the "snapshooting" stage of making movies around the home of family and friends, and 2) those who, inspired by the creative possibilities of the cine camera, seek broader horizons to challenge their ability and ingenuity.

For the latter, the documentary or travelogue type of film affords, perhaps, wider scope for creative filming by those who have not yet reached the professional stage of movie making. Moreover, here is the most logical field in which to attain professional proficiency. The filmer can still include his family and friends in his pictures, but now the pictures take on more significance than films that simply showed them in meaningless action The most logical beginning for a travelogue is to show a group of people—your family and friends, perhaps—starting for a certain destination, which is to be pictured in detail, in chronological order, and put together with a beginning, a middle and an end.

Thus it is natural to start the picture with shots showing the start of the trip, with good light a number one requisite for good color filming, and with pleasant weather essential to keep your "cast" happy and contented, it's a safe rule to 'follow the sun" in choosing the locale of your travelogue.

For the reader's guidance, I'll outline here a procedure to follow which is patterned after the routine I have used in scouting and photographing material for more than 100 travelogues made for theatrical exhibition.

First, do all the research you can beforehand on the locale you plan to visit and photograph Gather and study brochures, maps, travel stories, National Geographic features, etc, which will acquaint you with the area that will be the subject of your filming.

After careful study of this material, make a detailed list of the places, people, and events typical of the locale and

(Continued on Page 48)

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THE BIG SWITCH IS TO TV!

(Continued from Page 27)

crew, work not more than 2 or 3 days each week; but the work is steady week after week and the pay is good. Where a cameraman does more than one show a week—as does Walter Strenge ("My Little Margie," "Waterfront"), Karl Freund ("I Love Lucy," "December Bride," "Our Miss Brooks"), Phil Tannura ("Burns and Allen Show," "Jack Benny Show,"), and others—he may work a full five or six day week, but the average time required to light, rehearse and shoot a "series" show is 2 to 3 days.

As it was predicted only 24 months ago, Hollywood has become the television film production capital of the world. The number of TV shows being produced there on film is steadily increasing. As of December 24th, 1954, there were 53 TV film shows in production in 21 different studios. A year ago, the number of shows in production totaled 33.

Now being produced in Hollywood are: "So This Is Hollywood." "The Ray Bolger Show," "The Lone Ranger." "I Married Joan." "Dear Phoebe." "I Love Lucy," "Willy," "December Bride," "Lineup," "Our Miss Brooks." "Reader's Digest," "The Millionaire," "You Bet Your Life," "Gene Autry," "Annie Oakley," "The Star and The Story," "Four Star Theatre," "People Are Funny," "Confidential File." "Life With Elizabeth," "Florian Zabach Show." "The Liberace Show," "The Loretta Young Show," "Topper," "The Whistler," "Make Room For Daddy," "Burns and Allen Show," "The Jack Benny Show." "The Bob Cummings Show," "Life With Father," "Medic," "Schlitz Playhouse of Stars," "Where Were You" "Here Comes Donald." "Treasury Men In Action." "Man Behind The Badge," "It's A Great Life," "Mayor of the Town," "Pepsi Cola Playhouse." "Adventures of Kit Carson," "The Ray Milland Show." "My Little Margie." "Stu Erwin Show." "Amos 'n Andy." "Waterfront," "The Life of Riley," "Public Defender." "Passport To Danger." "Hey, Mulligan," "Captain Midnight." "Father Knows Best," "Ford Theatre," "Rin Tin Tin," "Dragnet," "The Korla Pandit Show," "Adventures of Ozzie and Harriett." "Superman," "Lassie," "I Led Three Lives," "Meet Corliss Archer." and "Cisco Kid" (Not all shows are shooting as this is written; only 53; as stated above.

Directing the photography of most of the films in the various TV series listed above and produced during 1954 were some forty A.S.C. cameramen. With few exceptions, they are veterans with many years experience in photographing features in the major studios. Some have won Academy Awards for photography. Their names, and the TV film series which they photographed entirely or in part during the past year are as follows:

Lucien Andriot, A.S.C.—"Life of Riley." "Where Were You." "Meet The O'Briens," "It's A Great Life."

Joseph Biroc, A.S.C.—"The Lone Wolf," "The Family Next Door," "Treasury Men In Action," "Dear Phoebe."

William Bradford, A.S.C.—"Gene Autry"

Norbert Brodine, A.S.C.—"Letters To Loretta."

Dan Clark, A.S.C.—"Cisco Kid," "I Led Three Lives"

George E. Clemens, A.S.C.—"Schlitz Playhouse of Stars."

Edward Colman, A.S.C.—"Dragnet."

Floyd Crosby, A.S.C.—"Royal Canadian Mounted Police," "Author's Playhouse."

Robert DeGrasse, A.S.C.—"Make Room For Daddy." "Ray Bolger Show"

George Diskant, A.S.C.—"Four Star Playhouse."

E. B. DuPar, A.S.C.—"Tim McCoy Show."

Ellsworth Fredericks, A.S.C.—"The Dennis Day Show."

Henry Freulich, A.S.C.—"Captain Midnight."

Karl Freund, A.S.C.—"I Love Lucy," "Our Miss Brooks," "Willy," "December Bride."

Frederick Gately, A.S.C.—"Big Town," "Mayor of the Town."

Alfred L. Gilks, A.S.C.—"Halls of Ivy."

Jack Greenhalgh, A.S.C.—Religious film series for Family Films.

Russell Harlan, A.S.C.—"Playhouse of Stars"

Sid Hickox, A.S.C.—"Willy," "December Bride."

Benjamin Kline, A.S.C.—"G. E. Theatre," "Fireside Theatre."

Jack MacKenize, A.S.C.—"Hank Mc-

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William Mellor, A.S.C.—"Adventures of Ozzie and Harriett"

Ernest W. Miller, A.S.C.—"Rocky Jones, Space Ranger," "Stu Erwin Show."

Virgil Miller, A.S.C.—"You Bet Your Life."

Hal Mohr, A.S.C.—"The Joan Davis Show," "That's My Boy," "Bob Cummings Show," "Life With Father."

Nick Musuraca, A.S.C.—"The Lone Wolf," "Lineup," "Four Star Playhouse."

Kenneth Peach, A.S.C.—"Mr. & Mrs. North," "Topper," "Adventures of the Falcon," "Here Comes Donald."

Robert Pittack, A.S.C.—"Cavalcade of America," "Private Secretary," "The Lone Ranger."

Guy Roe, A.S.C.—"Rocky Jones, Space Ranger."

John L. Russell, Jr., A.S.C.—"Joe Palooka."

William Sickner, A.S.C.—"The Whistler."

Mack Stengler, A.S.C.—"Life With Elizabeth," "The Liberace Show," "The Florian Zabach Show."

Alan Stensvold, A.S.C.—"Andy's Gang."

Harold Stine, A.S.C.—"Cavalcade of America," "Corla Pandit Show," "Superman."

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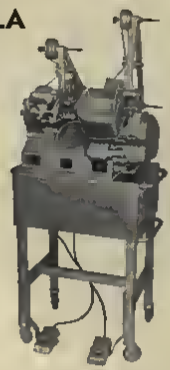
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Phillip Tannura, A.S.C.—"The Burns and Allen Show," "The Jack Benny Show"

James Van Trees. A.S.C.—"For The Defense," "I Married Joan," "Hey, Mulligan"

Gilbert Warrenton, A.S.C.—"Chevron Theatre"

Harold E. Wellman, A.S.C.—"Mr. Sun."

Lester White, A.S.C.—"Adventures of Rin Tin Tin."

Here is a summary of the filming technique which Hollywood directors of photography have established as more or less standard for the production of films for television. The most notable general departure from standard motion picture practice is that relating to subject lighting contrast. The density range of a print for television transmission should be lower than standard theatre film prints by 0.3. This means that in the photography of films for TV. subject lighting contrast should be employed which is considerably lower than that which is normally used for conventional black-and white feature film photography.

Normal lighting contrast and exposure may be employed providing the processing conditions of the negative or positive, or both, is altered in order to obtain an overall reproduction gamma which is lower than normal.

A third procedure involves use of normal lighting contrast and exposure, processing the negative and prints in a normal manner, but printing the positives lighter by 2 or 3 printer lights than would normally be used for feature film prints[1].

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[1] "The Use of Motion Picture Films In Television," Eastman Kodak Company

LOW BUDGET TRAINING FILM PRODUCTION

(Continued from Page 30)

Perhaps our biggest lighting problem was encountered when shooting in the long, narrow room of the Test Center. Here the 2000-watt Junior spot was used to throw light on the rear wall at the back of the set. Then all available photofloods were set up to light the area where the action was to take place. Baby Keglites were used to highlight certain areas of the equipment racks so there wouldn't be a large black "cave" at rear of the set.

In one instance, where it was physically impossible to pour enough light into a scene, we shot it at 12 frames per second and had the men appearing in it move about and perform their operations very slowly. This gave us the equivalent of a one-stop increase in exposure.

The camera used was a Cine Special, for which we had a 200 ft. and a 100-ft. film magazine. By having both magazines loaded before shooting started each day, we were always prepared to shoot for at least half a-day without having to reload the magazine again.

Our complement of lenses consisted of a 25mm, a 15mm wide-angle, and a 63mm telephonto. We used the 25mm for most of the exteriors, the wide-angle for many interiors, and the 63mm for close ups of detailed operations in the splicing of cables.

Although the Cine Special is equipped with a critical focusing device, we used this focuser only for checking composition. We always ran a tape on each shot, except extreme closeups, to insure accurate focus.

One shot in the script called for identifying the contents of a workmen's emergency kit. It was decided to make it in a dolly shot. The various parts and tools were arranged in a straight line on the floor. The camera was mounted on a baby tripod set up on a dolly. Also mounted on a support attached to the dolly was a Baby Keglite. As the dolly moved forward the light from the Baby Keg spotlighted each item as it was photographed.

In order to shoot this scene in sync with pre-recorded narration, the narration was played back as the scene was shot; the camera operator moved the dolly forward, stopping momentarily on each item as it was described by the narrator, then moved on to the next.

The camera dolly was employed a number of times throughout the production. In several instances we moved in from a medium shot to a closeup to emphasize some salient point. And in the closing shot of the picture, the camera follows the supervisor as he moves down the room congratulating the men on a job well done. Still another time we found that we could not move the camera far enough back to take in the area desired, even with a wide-angle lens. So the camera was again mounted on the dolly and moved with the subject as he changed position from one desk to another.

Our baby tripod came in handy on more than one occasion when shooting in narrow quarters. We also mounted the camera on desks, boxes or cabinets, and

one time we made a very effective dolly shot with the camera mounted on the step of a rolling ladder.

There is often little in the way of plot or story line in training films. But in this film, we had plot and time was the villain. Our story line concerned an unexpected break in a telephone toll cable, which occured when a bulldozer on a construction job dug too deep in an uncharted area. A toll operator at the telephone office is the first to become aware of the trouble. The supervisor is called, and she notifies the Toll Test Center. Here trained testers set to work, quickly locate the break and very soon have it repaired.

For scenes of action at site of the cable break, we selected a gravel quarry. On either side of a cut in the earth, made to simulate the swath cut by the bull dozer, we buried short lengths of cable, which had been prepared beforehand. One end of each piece of cable was cut up and "damaged," while the opposite end was prepared for splicing. These latter were carefully wrapped and then buried in the earth, leaving the jagged or "damaged" ends protruding.

After we made the shots showing discovery of the break and the arrival of the emergency crew, the cable sections were dug up and buried again with the clean ends, ready for splicing, exposed. In this way, we encountered no delay in

(Continued on Next Page)

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shooting, since it would have required considerable time to remove the lead sheath and other coverings of the cables at the location site and make the cable sections ready for splicing.

We followed the accepted practice of shooting all shots from the same camera angle at the same time (or same camera setup), and as a consequence confused the cable splicers working in the picture. In quick succession, we shot all the full shots at this location, then all the medium shots, and finally all the closeups. As the plot of the film unfolded, less and less cable pairs would be unspliced. Then, after we changed our camera setup, we would take some of the spliced pairs, unsplice them, and start over again. This was done to make the continuity match, but to the cable splicers it made no sense whatever!

On the afternoon of the last day of the production, cameraman Ken Barron and I went out on location to shoot scenes of an actual toll cable. These scenes were to serve as an opening sequence for the picture. We had already taken "Shot 1" twice along with some other shots; but we still had 25 feet of film left in the camera, and Barron, not being satisfied with the shots he had previously made, suggested we make a third attempt. Oddly enough, it was this third take that we selected for editing into the film. And that is how the first shot in the picture happened to be made last.

TECHNICAL PROGRESS IN 1954

(Continued from Page 25)

the system, and by late summer had demonstrated VistaVision projected from full double-frame prints, using a special projector in which the print travels horizontally past the gate, the same as does the negative in the VistaVision camera. (Amer. Cinematographer for November, 1954, page 574.)

While Metro-Goldwyn-Mayer studio is employing CinemaScope for its wide-screen productions, it has been working on its own version of wide-screen. At intervals during the past two years rumors have emanated from M-G-M that its engineers were at work on newer and greater wide-screen cameras. However, as yet, none of these rumors have culminated in a public demonstration of the equipment.

It can be said, however, that M-G-M, which has continuously encouraged its executives and engineers in research and development to improve the technical quality of motion pictures, definitely has some startling and solid developments to reveal. John Arnold, A.S.C., head of the studio's camera department for more than 30 years, has developed a new camera having horizontal film travel on the order of Paramount's VistaVision camera. However, Arnold's design provides for readily interchangeable film movements, affording a range of frame dimensions from six to ten sprocket holes in length.

Another development by Arnold for M-G-M is a camera that uses 35mm film which appears like super-size 16mm in that there are just two sprocket holes—one at either side—at each frame line, instead of the conventional four in standard 35mm film. This permits extending the picture area—making it wider—right and left into the area normally occupied by the sprocket holes.

Arnold and his studio technical associates are presently working on an even more advanced motion picture camera, which will record the largest picture area yet—a frame dimension 1⅜" in height by 2¼" in width. Such a large negative image, it is claimed, would enable the studio to make reduction prints of great clarity and sharpness in any aspect ratio, including CinemaScope, without resorting to the use of an anamorphic taking lens.

An account of cinematographic accomplishments in 1954 should include also an appraisal of the Todd-AO system, and especially of the Todd-AO camera itself, which was described in the October, 1954, issue of American Cinematographer. While developments on this camera had begun prior to 1954, it was not until early last year that the present Todd-AO cameras were completed and put into use in the shooting of the Rodgers and Hammerstein production, "Oklahoma!" at Metro-Goldwyn-Mayer studios.

Todd-AO is the only one of the new super-wide-screen systems that employs film stock of larger dimensions than standard 35mm. Todd-AO cameras use 65mm film for negative, which is printed on 70mm stock—the additional width accommodating the sound track.

On the same order as Cinerama in screen size, but considered vastly superior, since it is photographed with only one camera and projected with only one machine instead of three, Todd-AO gives the spectator a terrific sense of audience participation. Aspect ratio is 2 to 1, and projection is on a curved screen having a high reflectance surface. As with Cinerama and CinemaScope, stereophonic sound is employed.

Todd-AO's major accomplishment was

in perfecting a lens system whereby it could pick up with a minimum of distortion a scene having a 2 to 1 aspect ratio and put it on 65mm film. The front element of many of the Todd-AO lenses is about the diameter of an average dinner plate. Whereas the company began with a camera having a single lens, there is now a choice of four lenses that may be used. Unlike the lenses used on standard 35mm cameras (such as the Mitchell), which vary in focal length, the Todd-AO lenses are classified according to their angle of coverage, which ranges from 128° to 37°. Robert Surtees, A.S.C., ace M-G-M director of photography, has the distinction of being the first to photograph a full-length feature with the Todd-AO system. This is the Rodgers and Hammerstein production, "Oklahoma!" still shooting at M-G-M. (See Amer. Cinematographer for October, 1954, page 494.)

In the realm of motion picture photography, other notable accomplishments during 1954 included the development by Bell & Howell Company of a practical anamorphic lens for CinemaScope-type photography with 16mm cameras. Bell & Howell's lens, tradenamed Filmorama (See Amer. Cinematographer for October, 1954, page 504), is said to be patterned after the 20th Century-Fox CinemaScope lens. It can be used on all existing 16mm cameras.

Arnold & Richter, of Germany, makers of the Arriflex camera, made a major contribution when it developed an anamorphic lens for its 35mm camera, permitting cameramen to make hand-held shots in CinemaScope with comparative ease. (See Amer. Cinematographer for July, 1954, page 344.)

Thanks to the Bell & Howell and the Arnold & Richter anamorphic lens developments, it became possible this year for the first time for 16mm producers to make quality CinemaScope-type films; also, for many of Walt Disney's roving cameramen to gather super wide-screen footage for coming Disney short subjects in the CinemaScope format without having to use the larger studio camera equipment.

Last year saw an unprecedented number of underwater photographic assignments for Hollywood's directors of photography. The most renowned, perhaps, if not the most challenging, was Walt Disney's color and CinemaScope production, "Twenty Thousand Leagues Under the Sea." The underwater scenes were photographer by Till Gabbani (Amer. Cinematographer for June, 1954, page 282). For this assignment, Disney engineers designed and constructed a very efficient streamlined, pressurized, underwater blimp to take the Mitchell

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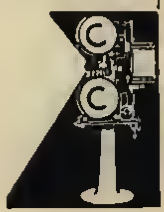

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camera with a CinemaScope lens. This has a built-in power source for the camera motor, and precise external remote controls for rackover, setting the lens stop, and focusing.

RKO studio achieved a somewhat less artistic job but a nonetheless efficient one in the construction of two blimped cameras for filming underwater scenes for its production of "The Big Rainbow." This production, as did others like it, posed the problem of providing sufficient power to drive the cameras for long periods of time without need for power fed from above by cumbersome cables. RKO engineers utilized a compact non-spillable wet storage battery, which was built into the camera blimp. (Photos of the two cameras appear on page 25.—ED.) During the production, approximately 45,000 feet of film was photographed in color over a period of approximately six weeks in the studio tank and, later, 2 weeks in Hawaii.

Perhaps the most advanced and successful undertaking in the matter of underwater camera blimp design was achieved last year by Metro Goldwyn-Mayer studio, whose technicians designed and constructed two for the photography of underwater scenes for the M-G-M color and CinemaScope production, "Jupiter's Darling." (See Amer. Cinematographer for September, 1954, page 440.)

These blimps were unique in that they had tubular stabilizers attached at the top which controlled and maintained position of the cameras while under water. The feature permitted tilting the cameras at an angle, up or down, right or left, and operating them in such positions without the need for supporting them on a tripod.

An interesting development last year was the follow-focus attachment for Mitchell cameras, which now enables owners of Mitchell NC, Standard, and 16mm cameras to broaden the scope of their photography by including follow focus and dolly shots. Easy to install and remove, the attachment couples the finder directly to the camera lens, and assures full control of picture framing and lens focusing, particularly at close, critical ranges.

The use of an electronic viewfinder with studio cameras, such as the Mitchell, has been under consideration for some time. Last year, the idea came a step closer to fruition when Len Roos, A.S.C., demonstrated the first of the Kinevox-Kay Lab electronic finders, now undergoing further refinement. The finder, which is virtually a miniaturized television camera, is mounted on studio cameras in place of the standard Mitchell viewfinder. Its lens has the same range as the film camera lens and the image is reproduced on a TV screen at the rear of the finder. "Slave" or monitor receivers may be placed at convenient points on the sound stage or near the camera, permitting the director of photography and others to observe the scene during lineup and shooting without going near the camera.

(Al Simon of McCadden Corp., Hollywood, producers of TV films, has a similar development under way which may be ready for demonstration early this year.)

Most outstanding development in film, of course, was Eastman Kodak Company's Tri-X, which went into first practical use in the industry last year. Following demonstration in Hollywood of highly interesting Tri-X tests, several of the industry's cameramen have already employed it in the production of television films. More recently, director of photography Stanley Cortez, A.S.C. used Tri-X in photographing 98 percent of the Leonard Goldstein production "Black Tuesday," marking the first time this film has been used in photographing a major Hollywood feature. (See story elsewhere in this issue.—ED.) At this writing, Tri-X is also being used in a second feature production. "Blackboard Jungle," which Russell Harlan, A.S.C., is photographing at M-G-M.

In the realm of set lighting, two important developments of 1954 include a new carbon developed by National Carbon Company designed to balance lighting to 3200° for color photography, when used in conjunction with incandescent lamps. General Electric Company's lamp division announced the development of a series of new "noise-free" incandescent lamps for motion picture set lighting. These include a 1000-watt general service lamp, a 1000-watt 3200° K lamp for photography, and a 2000-watt spotlight, also for photographic use.

Sizing up the industry as a whole for 1954, it can be said it made tremendous strides forward. The achievements cited here are selected from among the most important related directly to the photography of motion pictures. Twelve months hence, we should be able to look back over the year and reflect on accomplishments eminently as important, judging by the enthusiasm that prevails and the impetus toward a bigger and better motion picture business which 1954 gave the industry.

TRI-X IN FEATURE FILM PRODUCTION

(Continued from Page 33)

After reading the script the first time, I saw possibilities in Tri-X film as the medium best suited for interpreting this stark drama. Having previously seen many tests which had been made by other cameramen with this film, I felt that we could get a certain dramatic quality with Tri-X that could not be achieved as easily nor as effectively with any other available emulsion.

It was proposed to the late Leonard Goldstein that Tri-X be used for filming "Black Tuesday." After he had seen one test shot in particular that I had made with it in which only a single tallow candle had been used to illuminate the closeup of a girl (it was the first time such a shot had been made, I understand), he approved use of the film for the picture. It should be emphasized that Tri-X was not selected for its great speed alone nor to permit working with extremely low-key light, but rather to get the most in the way of increased depth of field by using smaller stops than we otherwise would do with other negative stock.

In evaluating the potentials of this film for feature productions, perhaps I had an advantage over some cameramen in that I had, many years earlier, used a similar film which was the forerunner of today's Tri-X. This was while I was in the Army and had been assigned to photograph the Yalta Conference. This conference, as readers probably know, was held in the ancient Czar's Palace. As we had been informed that no special lights were to be permitted for photography, the special "ultra fast" film was supplied for the recording of this very historic event. The result we achieved with this film was remarkable not only for the way it enabled us to obtain excellent exposures in inferior light, but for a rare and unusual image quality it gave.

In a similar way, Tri-X gave us superb results when we filmed a sequence of scenes on location in a downtown Los Angeles bank for "Black Tuesday." Because of the great speed of this film we were able to get excellent exposures using only a minimum number of studio lights augmented by the light from practical fixtures.

Tri-X's remarkable quality potentials again were demonstrated in the scenes we photographed on the sound stage, especially so on the set representing the interior of the warehouse, where the killer and his gang were holed up, following discovery by the police. Here we had to film scenes that represented day as well as night, with a gradual transition to night being evident as the

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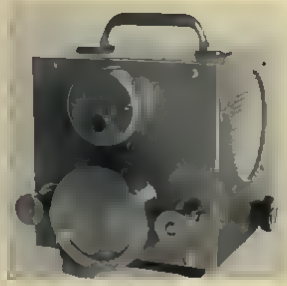

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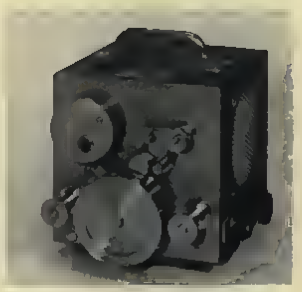

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story progressed. Because it was necessary to achieve the maximum depth of field in the shots made within the huge warehouse interior, the ability to shoot at small stops was a decided advantage. It meant we could achieve the necessary pictorial result without resorting to more costly lighting, could maintain more freedom of movement with the camera without becoming too involved with placement of lights.

Some of our most dramatic lighting accomplishments appear in the sequence where the police lay siege to the gang imprisoned in the warehouse. As night falls, the police rope off the area surrounding the building and bring up batteries of high-powered searchlights, which are placed at strategic points to throw light into the warehouse interior.

Long fingers of the powerful searchlights probe through every crack of the building, lighting it enough to reveal the horrified group within—further dramatizing their actions and their emotions as the police close in.

Throughout the picture, we worked at apertures ranging from f/2.8 to f/16. Our negative was processed at the Pathe Laboratory in Hollywood, developed to a gamma of 0.65

Naturally, with a negative film of such great speed, there are precautions

(Continued on Page 47)

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COLUMBIA

CHARLES LAWTON—"My Sister Eileen," (Technicolor, CinemaScope), with Janet Leigh, Jack Lemmon, Richard Quine, director.

HENRY FREULICH—"Duel on the Mississippi," (Technicolor), with Patricia Medina and Lex Barker. William Castle, director.

LESTER WHITE—"Five Against the House," with Guy Madison and Kim Novak. Phil Karlson, director.

IRA MORGAN—"Devil Goddess," with Johnny Weissmuller and Angela Stevens. Spencer Bennet, director.

METRO-GOLDWYN-MAYER

PAUL C. VOGEL and JOSEPH RUTTENBERG—"Interrupted Melody," (Color, CinemaScope), with Glenn Ford, Eleanor Parker, Carita Bernhardt, director.

PAUL C. VOGEL—"The Scarlet Coat," (Color, CinemaScope), with Cornel Wilde, Michael Wilding and Anne Francis. John Sturges, director.

RUSSELL HARLAN—"Blackboard Jungle," (Wide Screen, black-and-white), with Glenn Ford and Anne Francis. Richard Brooks, director.

ARTHUR ARLING—"Love Me or Leave Me," (Color, CinemaScope), with Doris Day and James Cagney. Charles Vidor, director.

GEORGE FOLSEY—"The Cobweb," (EastmanColor, CinemaScope), with Richard Widmark and Lauren Bacall. Vincente Minnelli, director.

ROBERT PLANCK—"The King's Thief." (EastmanColor, CinemaScope), with Ann Blythe and Edmund Purdom. Hugo Fregonese, director.

PARAMOUNT

DANIEL FAPP—"You're Never Too Young," (Technicolor, VistaVision), with Dean Martin and Jerry Lewis. Norman Taurog, director.

LEE GARMES—"The Desperate Hours," (VistaVision), with Humphrey Bogart and Martha Scott. William Wyler, director.

JAMES WONG HOWE—"The Rose Tattoo," (VistaVision), with Burt Lancaster and Anna Magnani. Daniel Mann, director.

RAY RENNAHAN—"The Court Jester," (Dena Prods.-Technicolor, VistaVision), with Danny Kaye and Glynis Johns. Norman Panama and Melvin Frank, producers-directors.

ROBERT BURKS—"The Vagabond King," (Technicolor, VistaVision), with Kathryn Grayson and Oreste Kirkop. Michael Curtiz, director.

LOYAL GRIGGS and WALLACE KELLEY—"The Ten Commandments," (Technicolor, VistaVision), with Charlton Heston, Anne Baxter and cast. Cecil B. DeMille, producer-director.

WILLIAM DANIELS—"The Girl Rush," (Technicolor, VistaVision), with Rosalind Russell and Fernando Lamas. Robert Pirosh, director.

20TH CENTURY-FOX

HAROLD LIPSTEIN—"A Man Called Peter," (Color, CinemaScope), with Richard Todd and Jean Peters. Henry Koster, director.

LEON SHAMROY—"Daddy Longlegs," (Color, CinemaScope), with Fred Astaire and Leslie Caron. Jean Negulesco, director.

LEO TOVER—"Soldier of Fortune," (Color, CinemaScope), with Clark Gable and Susan Hayward. Edward Dmytryk, director.

CHARLES G. CLARKE—"Violent Saturday," (Color, CinemaScope), with Victor Mature and Richard Egan. Richard Fleischer, director.

UNIVERSAL-INTERNATIONAL

WILFRID CLINE—"Third Girl from the Right," retitled "Ain't Misbehavin'", (Technicolor), with Rory Calhoun and Piper Laurie. Eddie Buzzell, director.

CARL GUTHRIE—"Kiss of Fire," (Technicolor, wide screen), with Jack Palance and Barbara Rush. Joseph Newman, director.

MAURY GERTSMAN—"Tacey," retitled "One Desire," (Technicolor), with Anne Baxter and Rock Hudson. Jerry Hopper, director.

CHARLES LANG—"Female on the Beach," with Joan Crawford and Jeff Chandler. Joseph Pevney, director.

WARNER BROTHERS

HAL ROSSON—"Strange Lady in Town," (WarnerColor, CinemaScope), with Greer Garson and Dana Andrews. Mervyn LeRoy, producer-director.

JOHN SEITZ—"The McConnell Story," (WarnerColor, CinemaScope), with Alan Ladd and June Allyson. Gordon Douglas, director.

INDEPENDENT

ROBERT SURTEES—"Oklahoma!" (R&H Pictures—Eastman Color; Todd-AO, Technicolor CinemaScope), with Gordon MacRae, Shirley Jones, Gene Nelson and others. Fred Zinnemann, director.

FRANK PLANER—"Not As A Stranger," (Stanley Kramer Prods. for U.A.; Wide-screen), with Olivia de Havilland, Robert Mitchum, Frank Sinatra and others. Stanley Kramer, producer-director.

EARNEST LASZLO—"Kiss Me Deadly," (Parklane-Saville Prods. for U.A. release), with Ralph Meeker, Cloris Leachman and others. Robert Aldrich, producer-director.

FLOYD CROSBY—"Five Guns West," (Palo Alto Prods., EastmanColor), with John Lund and Dorothy Malone. Roger Corman, producer-director.

HARRY NEUMANN—"Canada's Great Manhunt," (Bischoff-Diamond Prod. for U.A.), with Edward G. Robinson, George Raft and Audrey Totter. Lewis Allen, director.

GILBERT WARRENTON—"No Place To Hide," (EastmanColor, Wide-screen; shooting in Manila), with David Brian and Mercha Hunt. Joseph Shaftel, producer-director.

LUCIEN BALLARD—"Magnificent Matador," (Nat'l. Pics.—Primero Prod. for 20th Fox release; EastmanColor, CinemaScope. Shooting in Mexico), with Maureen O'Hara and Anthony Quinn. Budd Boetticher, director.

LEO TOVER—"Soldier of Fortune," (Color; CinemaScope, shooting in Hong Kong), with Clark Gable and Susan Hayward. Edward Dmytryk, director.

TELEVISION

(For list of directors of photography who shot television films last month, see special article beginning on page 27 of this issue—ED.)

TRI-X IN FEATURE FILM PRODUCTION

(Continued from Page 45)

that must be taken. As is true with other negative emulsions, granularity increases with density of the negative. It is therefore highly important to avoid overexposure. The precaution is even more important with this film because of its extremely high speed.

Because of Tri-X's great speed and the limited sensitivity of some exposure meters in use today, it should be noted that satisfactory exposures often may be obtained even when the set or location illumination is so low that a reading cannot be secured with a meter. Where there is any doubt, of course, proper exposure can be determined by shooting and developing tests.

Frankly, we often arrived at exposures intuitively. Just as a good cook, in preparing some unusual dish, adds a pinch of salt, a dash of pepper or a modicum of other condiment—following no established recipe—so we determined the exposure for some scenes strictly on the basis of long experience with motion picture negatives. Of course, in making such deductions, there had to be a starting point, and here we had the film manufacturer's recommendations. (See Am. Cinematographer for July, 1954, page 335.—ED.).

One of the pleasant discoveries we made with this film is that it affords a comfortable margin for exposure error of approximately one full stop. However, knowing well in advance the film's potential for overexposure, we reduced this possibility to a minimum by working closely with the art director with regard to the color values in the sets. In this way, the possibility of "burning up" walls and other areas in a set while achieving correct exposure elsewhere was carefully avoided.

Today, it is the aim of the film manufacturers to keep developing negative emulsions with still greater speeds, at the same time retaining the most desirable screen quality. It would seem that this has been successfully attained with the development of Tri-X.

ADAPTING THE ZOOMAR LENS TO AURICON-PRO

(Continued from Page 29)

in place as previously determined. When this prism is properly located, you will be able to see clearly through the Zoomar finder when looking through the other *square* face of the prism. (Each prism has two square faces, one oblong.)

The second prism (prism #2 in Fig. 2) is now cemented in place. Here follow the pattern indicated in Fig. 3. This is placed in exactly the reverse position of prism #1, i.e., with two *square* faces facing, and with the other *square* face on prism #2 facing toward the back of the camera.

When cementing this prism in place, take care that none of the cement seeps into the air space which must be allowed between the two prisms. This space should be no less than 1/16-inch.

After the prisms are properly located and cemented to the lower prism bracket, the next step is to set in place the upper prism bracket. Apply cement sparingly to top of each prism, making sure that none flows down into the air space between the two, and press the top bracket into place. Next apply cement along the edge of the bracket where it joins the base plate, securing it to same.

As the thickness of prisms sometimes varies, it is advisable to measure the distance between the two mounted prism brackets before cutting out the small rectangular brace (shown in Fig. 2) that is to be inserted between the two. When proper size has been determined, cut and shape the piece and then cement it in place.

After all the various parts have been cemented together to form the compact prism unit, it may be mounted and dismounted from the camera simply by removing two screws. The gadget will enable the camera operator now to line up and compose his shots through the Zoomar lens finder, as shown in Fig. A. The attachment can be given a more professional look if the Lucite parts are painted black. Be sure not to apply paint to the prisms.

So much for the prism viewing device. Before the Zoomar-16 lens can be properly used on the Auricon-Pro, a second gadget must necessarily be built and installed. This is the simple plastic and sponge rubber support diagrammed in Fig. 4. Because the Zoomar is attached directly to the Auricon-Pro camera lens, it is advisable to provide additional support for the Zoomar, to prevent it from shifting position, especially with relation to the prism viewer. This, the support described here, does quite satisfactorily.

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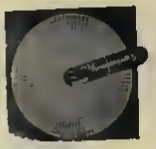

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ing from the front of the Auricon-Pro camera, which are used to support a matte box and sunshade. These rods are used to hold the support for the Zoomar 16 lens. A piece of ¼-inch Lucite, cut to the shape shown in Fig. 4, is drilled to fit over the rods. On the top edge of the Lucite piece, mount a short strip of 3/16-in. sponge rubber, using plastic cement. This offers a firm but not too rigid surface for the base of the Zoomar lens to rest upon. The notch in the Lucite piece, which may be seen in Fig. 4 just under the word "sponge," should be made with a file after the brace has been mounted on the camera and the Zoomar lens installed in place. Purpose of the notch is to permit full operation of the Zoomar lens lever.

Needless to say, I found the construction and installation of these two gadgets quite worthwhile, inasmuch as they made it possible to add to my camera the Zoomar-16 lens, and enabled me to use it with full professional results.

TRAVELOGUES OFFER FILMING CHALLENGE

(Continued from Page 36)

which you plan to record with your camera.

After your arrival at the locale, and before unpacking your camera, first make a personal check of the "places, people, and events" previously noted to determine their pictorial worth, where best to set up the camera for most desirable composition, and the time of day the light is best for the type of shot you propose to make. Carry along a sizeable notebook, and don't be stingy with your notes; they'll prove invaluable to you when it comes time to shoot. While you are making this survey, also determine whether or not special permission is necessary in order to photograph the subject, the people who appear there, or the activity. If so, make the necessary arrangements in advance.

Talk to as many "natives" as possible, explain your objective, and ask for suggestions. Invariably they can tell you of additional things of interest that should be included in your travel film. Be sure, however, to personally check on the pictorial possibilities of such suggestions before setting out to photograph them.

I once journeyed two days on horseback to photograph what a native had declared to be "the most spectacular scene in the world!"—high atop a mountain. But when I reached the summit and surveyed the view I found it entirely devoid of picture-making possibilities.

At this time of the year, one of the best bets photographically is Tucson, Arizona and the surrounding countryside. Tucson is easy to reach by air, train or automobile. It has naturally ideal shooting weather the year around, and there is a wide variety of attractions and activities to beckon the lens of the cine photographer.

Assuming, then, that you are going to make a travelogue of Tucson, suppose we set down a tentative plan or "shooting script." Here is the program I once followed in making a travelogue of this area, and it is the pattern I would follow were I to do it again—in black-and-white or color, in CinemaScope or any aspect ratio!

1—*Introduction*—the setting, the landscape, etc.

2—*Historical Aspects*: Existing historical structures, ruins, etc.

3—*Characteristic Architecture*—Contemporary homes, business blocks, schools, churches, etc.

4—*Agriculture*

5—*Industry*

6—*Education*

7—*The arts*

8—*Curiosities*

9—*Unique businesses or industry*

10—*Sports*

11—*Wild Life*

12—*Unusual scenic vistas*

13—*Ceremonials or folklore*

Theatrical travelogues usually are limited to around nine hundred feet of 35mm film—about ten minutes screen time—making it necessary to keep the subject matter down to about six to eight topics or points of interest, each running about a minute and a half. The cine cameraist, however, has no such restrictions to follow. Nevertheless, he should avoid "cluttering" his picture with a lot of relatively unimportant subject matter. He shouldn't try to put a "trip around the world" all on a single reel of film. The aim should be always to do a thoroughly interesting coverage of a limited area rather than a hit-and-miss spotty coverage of a large area.

For the reader's guidance, here is a comprehensive outline of some of the most interesting subjects to include in a travelogue of Tucson, Arizona and the surrounding area:

1—Panorama of the city, which is situated in a valley and backdropped by picturesque mountains and surrounded by desert.

2—A section of the old city wall with commemorative plaque; old territorial buildings; glimpse of the Historical Society displays; San Xavier Mission, Ft. Lowell. The Barber Shop Museum.

(Continued on Page 50)

CLASSIFIED ADVERTISING

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TRAVELOGUES

(Continued from Page 48)

3—Important buildings, businesses, homes, and institutions with Spanish and southwestern type architecture.

4—Agricultural aspect: irrigation, date harvesting, citrus groves, cotton fields, winter vegetable growing. The cattle industry with its roundups, branding, rodeos.

5—Open pit mining of copper ore, the smelters, aircraft factories, cement plant.

6—Comparison shots of beautiful St. Philips church in the hills, with its picture window over altar; also other elaborate and artistic churches; primitive places of worship of the nearby Yaqui and Papago Indians.

7—The University of Arizona, with its emphasis on outdoor activities—archaeology, botany, art, geology, agriculture and animal husbandry; ranch type school; Indian school.

8—The Davis-Monthan Airbase. Special permission must be obtained to photograph here. Opportunity for effective shots of high-flying planes in sky followed by vapor trails.

9—Festival of Southwestern Arts; art shows, outdoor art classes in striking settings; Navajo silversmiths at work, Papago basket weavers; Mexican costumes and dances.

10—Study of cacti; fantastic shapes and sizes and a wide variety make interesting compositional shots. In the spring, the desert flowers

11—Unique business of making furniture from cactus skeletons; cactus candy making

12—Fiesta de los Vaqueros—the annual rodeo—also the Kid's Rodeo, the Intercollegiate Rodeo, and the Papago Indian Rodeo.

13—Desert Trailside Museum provides opportunity to photograph animals and birds. Similar opportunities abound near homes at outskirts of city where citizens feed and tame wildlife.

14—Outstanding scenery, Mt. Lemmon with its rocky highways; the wonderland of rocks; Arizona sunsets.

15—Indian ceremonials: Yaquis at Easter time; the Papagoes at Christmas. La Posadas and La Pinyatas Mexican ceremonial customs; the Wishing Shrine, Puherty Rites of the Apache Indians.

There are, of course, many other subjects and places which one might easily include in this outline. It will he a test of the filmer's ability to recognize the unusual and the photogenic in locating them.

The above is hut a suggested outline—a pattern to follow in your search for interesting subject matter for your travelogue. So much will depend upon the weather, the light, the time of day, and the camera angles you select. Naturally, you will have to decide on camera angles yourself, as it would be impractical in this brief article to attempt to define shooting positions and camera angles for each of the above-mentioned subjects or locales.

You will be interested to know, however, that a great many professional cinematographers have made Arizona, and especially Tucson and its surrounding points of interest, the subject of their cameras and with considerable success. So if you live in a region where incessant cloudiness, fog, smog and other hinderances plague the photographer, it will he a delight for you to awake each day in Tucson and find the sky clear and blue, the mountains and distant vistas etched sharply and everything just made to order for photography.

Here it is possible to shoot outdoors quite successfully both in the early morning and in late afternoon, when the sun is quite low. You needn't be afraid to shoot in such extremes of light if you have a good exposure meter and know how to use it.

To sum it up, here you'll not only find a real challenge to your movie making ability, hut many pleasant experiences in meeting it.

MOVIES WITHOUT A CAMERA

(Continued from Page 35)

After the music has been recorded, each note, phrase and sentence is marked on the track with a grease pencil. The notes are measured cumulatively from zero as the track is run on a frame counter, and measurements are put against the notes on a dope sheet, usually a simplified musical score. The length of each note in frames is calculated, and the grease-pencilled sound track is run through a two-way winder together with a roll of clear leader, known as the "dummy." The notes are copied and identified with India ink on the dummy.

The actual drawing is done with the aid of an apparatus adapted by McLaren himself from a camera gate. (Fig. 2.) The claw mechanism is used to hold the film in place and advance it one frame at a time. An ingenious optical system reflects the image of the frame just drawn onto the new frame about to he drawn.

The clear machine leader to be drawn on is threaded into this apparatus with the dummy below it. The drawing is done with pen and ink from the first frame to the last in natural sequence. (Fig. 3.) Finally the drawn film goes into the lab for two prints—one for checking sync and one as a master for release printing. When color releases are needed, various kinds of dupes are made from the master and are assembled in parallel to act as separation negatives for the color process used.

Only McLaren could have thought of using his cameraless technique for one of the first 3-D films ever publicly shown. *Now is the Time* was made in 1950 for the ultra-modern Telecinema at the Festival of Britain, held in the following year, and McLaren's match stick men stepped out from the screen to chase each other among the enthusiastic audience.

But the most intriguing of the stereoscopic films shown was *Around is Around*, another McLaren experiment, this time made *with* a camera. But as I said earlier, he never uses a camera like anyone else. Examples of how he does use it must wait until next month.

WHAT'S NEW

(Continued from Page 12)

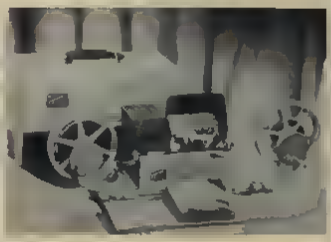

Table-top Viewer

Craig, Inc., a division of Kalart Company, Plainville, Conn., announces its new Projecto-Editor, a dual purpose unit for table-top viewing of motion pictures and a complete outfit for film editing and repair. It can be set up for either use in 60 seconds.

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Lab Price List

Film Industries, Inc., 973 Bridgeport Ave., Milford, Conn., invite those interested in 8mm and 16mm film processing duplication, etc., to write for the company's new price list.

Title Letters

Descriptive literature and price sheets of movable letters for making amateur and professional film titles are now available from H. W. Knight & Son, Inc., Seneca Falls, N. Y.

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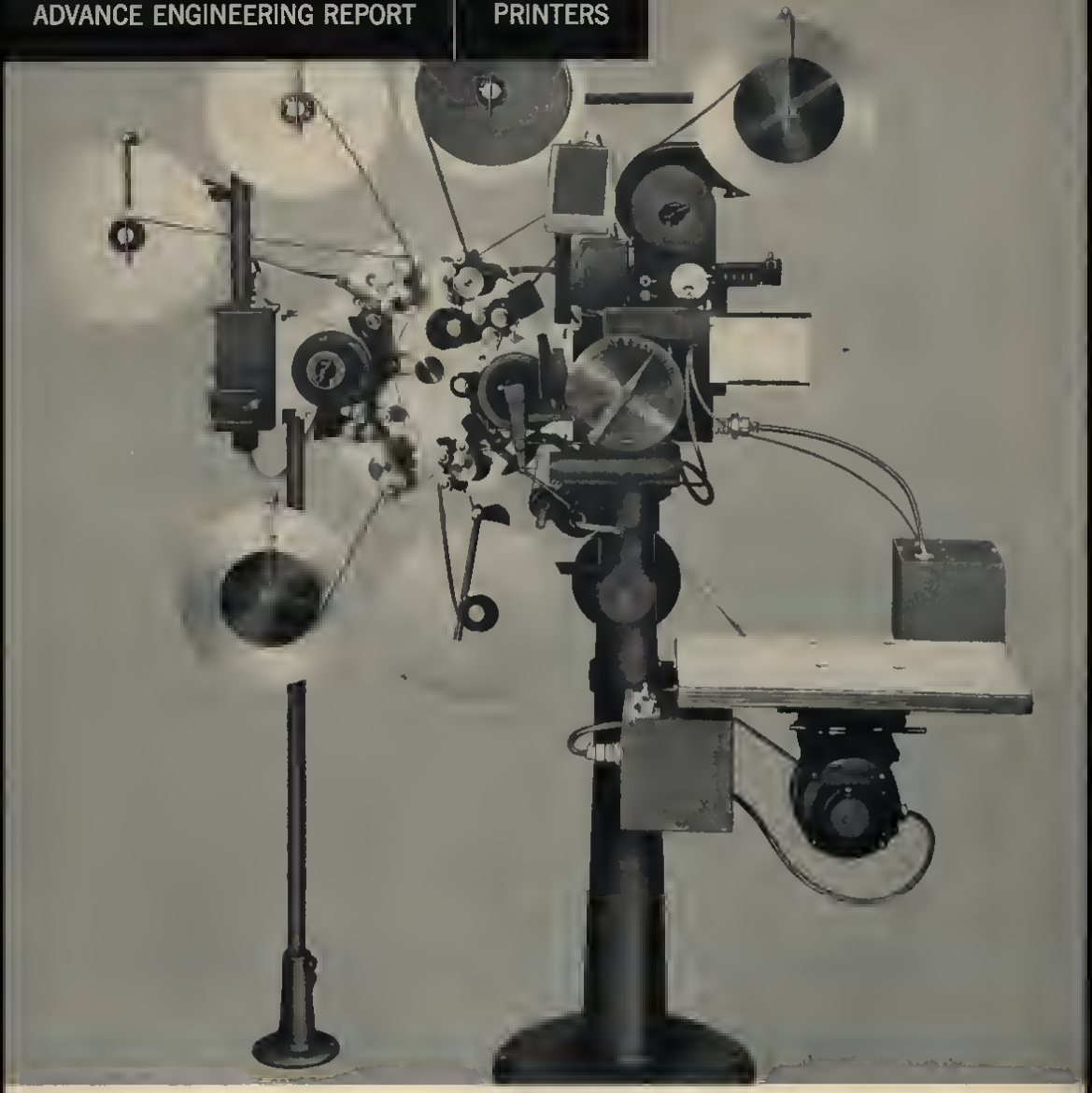

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